TMs are also issued as initial distributions at NPFC. On receipt of material from the publisher, mailing labels and automatic distribution lists, the TMs are packaged and prepared for shipment the same as TMs pulled from stock. Residual TMs are placed into stock. Distribution completion information is sent to the TM sponsor, but not to the individual customers. Occasionally, a sponsor will direct NPFC to make a subsequent distribution from TMs already in stock.

These processes also apply to Navy forms and directives.

2.2.2.5.2 Current Navy Organizations and Personnel Responsibilities.

The following reflects the key responsibilities of the primary participants to support these functions:

a. NPFC:

1. Designated inventory control point for COG-I material (Navy manuals, technical directives, administrative directives, and Navy stock funded forms).

2. Serve as a stock point for COG-I material.

3. Process requests from Navy, DoD, and FMS customers, as well as other government agencies and private industry.

4. Recommend or set levels of supply and initiate required procurement actions.

5. Perform cataloging activities.

6. Perform initial distribution.

b. NETPMSA:

1. Serve as NRTC stockpoint for training manuals and NRTCS.

2. Process customer requests for courses.

3. Recommend levels of supply and initiate required procurement actions.

4. Perform cataloging functions.

5. Issue courses.

2.2.2.5.3 Navy Equipment.

a. Standard office automation systems.

b. NPFC System (see Section 5 for more details).

2.2.2.5.4 Navy Deficiencies.

a. There is excessive storage space required for paper TMs.

b. Storage facilities often do not have adequate environmental protection.

c. Insufficient billets exists to handle the tasks associated with storage of TMs.

d. Excessive processing time and non-efficient feedback for requisitioning.

2.2.2.6 Distribute TMs (A6).

2.2.2.6.1 Navy Description.

NPPS is normally responsible for reproduction and initial distribution for manuals and changes in accordance with instructions provided by the SYSCOMs or NETPMSA. Lists are normally maintained by the sponsor of the manual; however, NPFC maintains lists for a limited number of TMs. NPFC is responsible for maintaining a supply of manuals for reorders. This is also true for Navy Directives. For forms, however, once the sponsor submits the FPSR to NPFC establishing a new or revised form, all inventory management responsibility transfers to NPFC.

The Navy sponsor identifies initial distribution requirements prior to publication of the TM. Each Navy activity is assigned a Unit Identification Code (UIC) when activated which is used in ordering material via MILSTRIP requisition. A Standard Navy Distribution List (SNDL) number/activity address code is assigned for initial distribution.

2.2.2.6.1.1 Navy - Request Assignment of Automatic Distribution (A61).

Navy systems commands have established a number of ways to identify organizations which are placed on automatic distribution of TMs. Generally, to be placed on automatic distribution organizations must be placed on distribution requirements tables (DRT), or lists. For initial outfitting, publication files are developed by a number of activities by making use of contractor

furnished equipment (CFE)/govemment furnished equipment (GFE) information. The process of assignment of automatic distribution is shown in Figure 2-47, Navy - Request Assignment of Automatic Distribution.

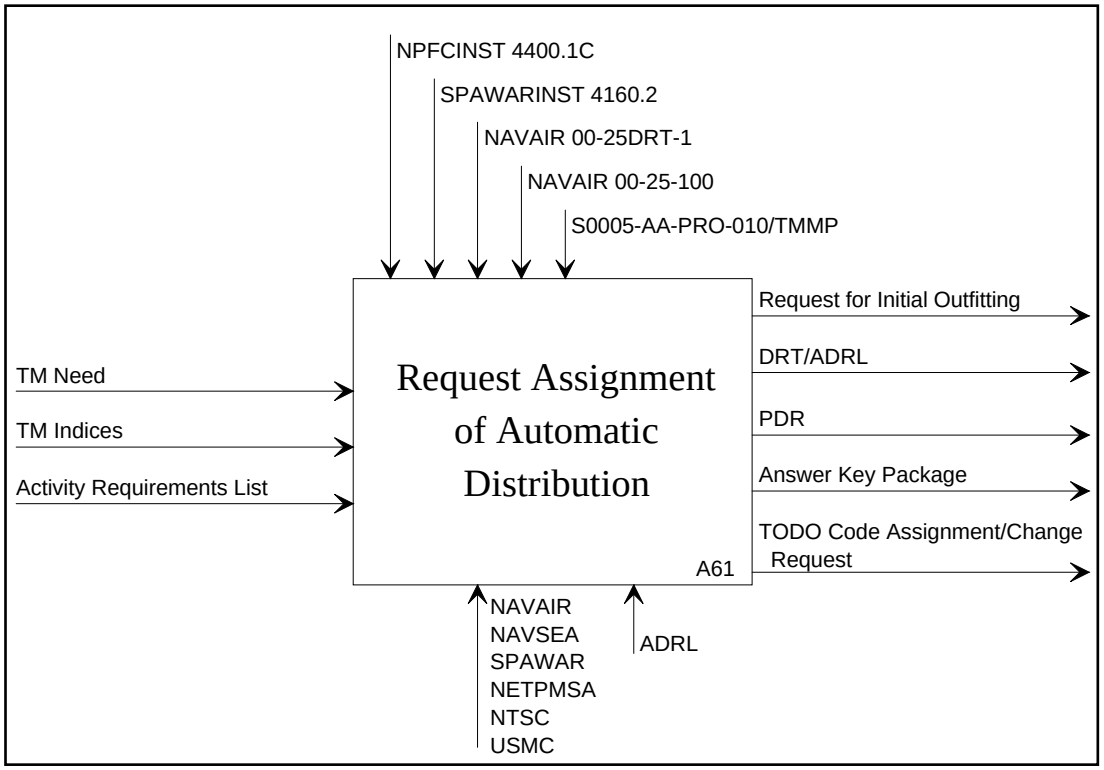

Figure 2-47, Navy - Request Assignment of Automatic Distribution

An Initial Distribution is directed by the TM sponsor either as part of the Reproduction Package in A42 or as a separate action by the PDR in A61. Both avenues use the DRT/Automated Distribution Requirements Lists (ADRLs) to identify customers to receive material. The TM sponsors generally control the creation and revision of DRT/ADRLs applicable to initial distributions. Individual customers may request addition, deletion, or revision or quantity shipped for specific TMs by letter to the TM sponsor.

Initial outfitting begins with an initial outfitting letter from an activity that is newly commissioned or reactivated and/or from an existing activity which will be responsible for the maintenance or repair of new or different aircraft, missiles, and/or equipment items. Establishing initial distribution requirements usually is a technical library function performed by

CFAS, ISEAs and/or TM managers. To develop distribution requirements, cognizant activities consult a number of indices that identify TMs in relation to systems, subsystems or equipment items. Letters may be prepared by maintenance/repair activities to request initial outfitting lists (IOL). Cognizant activities tailor the list and forward the IOL to maintenance/repair organizations. In turn, these organizations review the IOL and request a commissioning for predetermined quantities.

Finally, Navy activities with continuing follow-on and/or bulk requirements of TMs (greater than 10 copies) from DoD services or agencies (i.e., Air Force, Army, Defense Logistics Agency, Marine Corps) submit a letter of request with justification to be placed on distribution lists maintained by other services or agencies. For the Army, Defense Logistics Agency (DLA) and the Marine Corps, Navy activities submit letter requests. For Army publications, requests are sent to HQ DA USAPPC, Alexandria, VA via NPFC-100. For DLA publications, requests are forwarded to DLA (DLAH-XMD), Cameron Station, VA. For Marine Corps documents, requests are sent to Marine Corps Logistics Base (876), Albany, GA. For Air Force publications, Navy activities are required to request the assignment of a Technical Order Distribution Office (TODO) code IAW TO 00-5-2 which requires the submission of an AFTO 43 and a letter of justification. This information is processed by Oklahoma City Air Logistics Center (OC-ALC)/MMD Tinker AFB, OK for the assignment of the TODO code.

2.2.2.6.1.2 Navy - Control Distribution (A62).

Generally, two types of controls are used on the distribution of TMs: 1) controls on initial distribution or outfitting and 2) controls on replenishment requisitions. Both of these controls are shown in Figure 2-48, Navy - Control Distribution and also apply to Navy directives and forms. Controls on initial outfitting involve recording the status of IOL shipments and are recorded in the NPFC system to track the status of initial distributions. In conjunction with initial outfitting, Navy activities may submit a letter indicating a shortage of TMs in connection with initial outfitting. The IOL status information may be used to respond to shortage information.

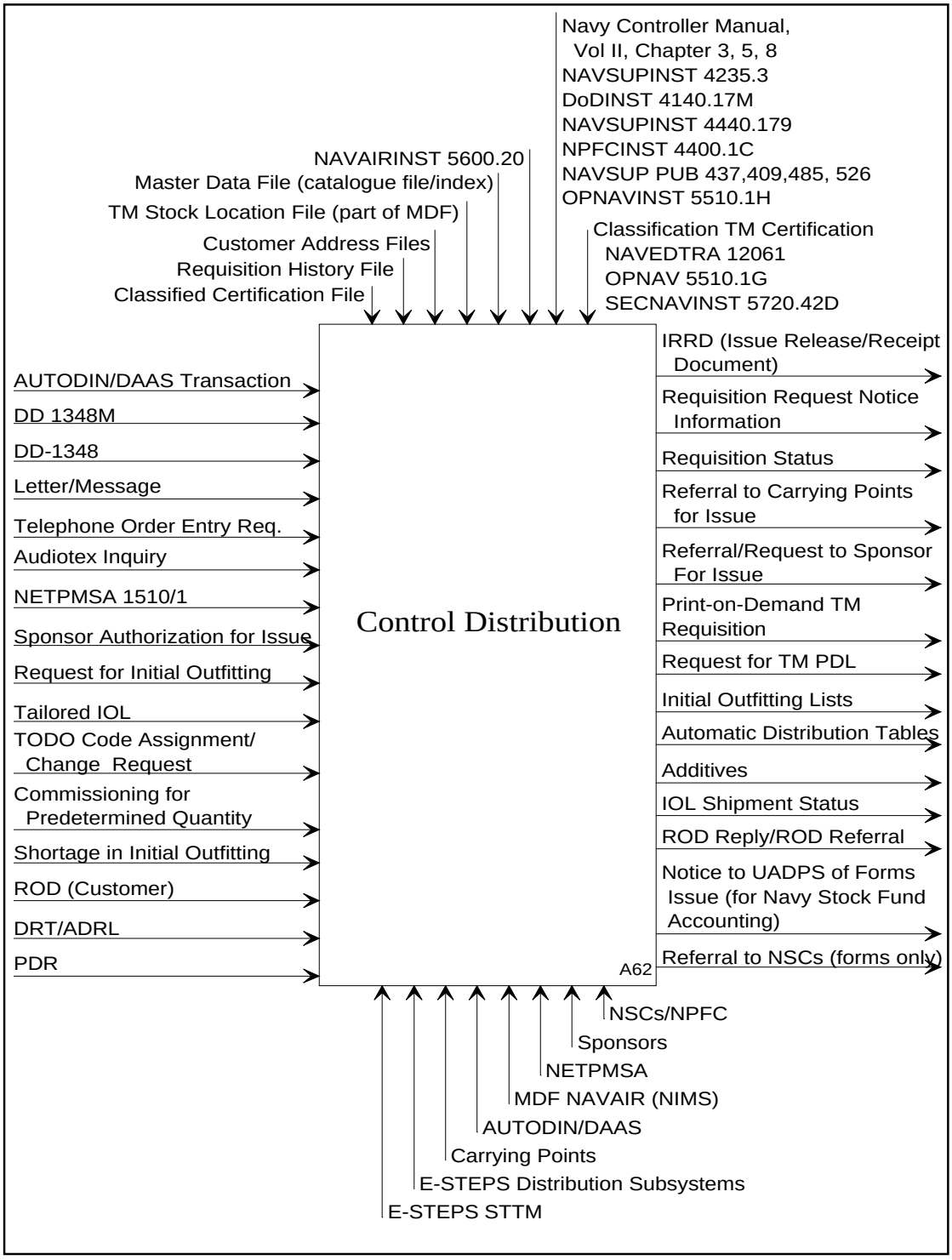

Figure 2-48, Navy - Control Distribution

Controls on replenishment requisitions are performed in conjunction with receipt of TM requisitions. All requisitions received by the Navy TM supply activities are reviewed or edited based on publication control criteria including a check of current inventory records, classification, and distribution statement Requisitions which pass review/edit are authorized TM distribution. For requisition failing review or edit criteria, a number of processes may be initiated. First, if the supply activity receiving the requisition is not the inventory control activity for the TM, the requisition may be routed to the appropriate supply activity. Second, some TMs require that sponsors authorize the issue of the TM. Under this scenario, the supply activity may route the requisition to the cognizant TM manager to authorize or reject the requisition. This is the case with most of the FMS requisitions that come to NPFC for issue. Finally, requisition request notice information may be forwarded to the requester describing what has occurred with the requisition and detailing information on how to obtain the TM(s). Examples of requisition request notice information may be found on NPFC-4470/2 and NPFC 4400/4.

Finally, when an issue release/receipt document (IRRD) is created for a Navy form (COG-11), an automated notice is sent to the Uniform Accounting Data Processing System (UADPS) which in turn sends the user a request for expenditure of Navy Stock Funds.

TM distribution addressing information is maintained by a number of Navy systems. The Navy Comptrollers Manual, Vol 11, Chapter 5, is the authoritative source of UIC. NAVAIR makes use of Activity Address Codes to distribute TMs. This distribution addressing information is also used in conjunction with initial distribution and/or outfitting.

Upon user request and approval for automatic distribution of TM updates/revision/changes, Baseline Distribution Lists and Distribution Requirements Tables will be updated. Initial distribution and initial outfitting are accomplished in accordance with a number of regulations and instructions. Generally, initial distribution requirements are keyed to UIC, which has been established IAW Navy Comptroller Manual Vol. H Chapter 5, or Activity Address Code (NAVAIR). NPFC generally uses SNDL or tailored listing for initial distribution. The UIC codes, Activity codes, and SNDLs are used to uniquely identify Navy activities and are used for addressing purposes. In addition, internal office codes may be used for addressing purposes.

2.2.2.6.1.3 Navy - Create TM Requirements (A63).

The process of creating TM requirements is shown in Figure 2-49, Navy - Create TM Requirements. Navy activities may submit requisitions for TMs in a number of ways. DD Form 1348 and 1348M (mechanized) are used through the Navy supply system to initiate a one-time request for TMs or directives. The Automated Digital Information Network (AUTODIN)/ Defense Automatic Addressing System (DAAS) may be used to order TMs through 1) local supply activities or 2) direct message transmittal to the DAAS, Dayton, OH for resubmittal to DAAS via AUTODIN to the appropriate supply source. All requests for Navy TMs from foreign governments are forwarded to NPFC from NAVILCO. NAVILCO is the single point of contact for foreign customers who order Navy TMs. NPFC performs the same functions for FMS customers as they do for Navy customers. On occasion the user will be unable to identify technical documentation for a given weapon system or equipment item and/or requires a publication which is not listed in official indexes. Under this scenario, a letter may be sent to requisition a TM. This process also applies to creating requirements for Navy directives and forms. In addition, when a Navy requisition is created for a form (COG-11), a Navy Stock Fund obligation is created in the user’s accounting system. The Navy Comptroller Manual Vol II Chapters 3 and 8 control Navy Stock Fund policy and procedures.

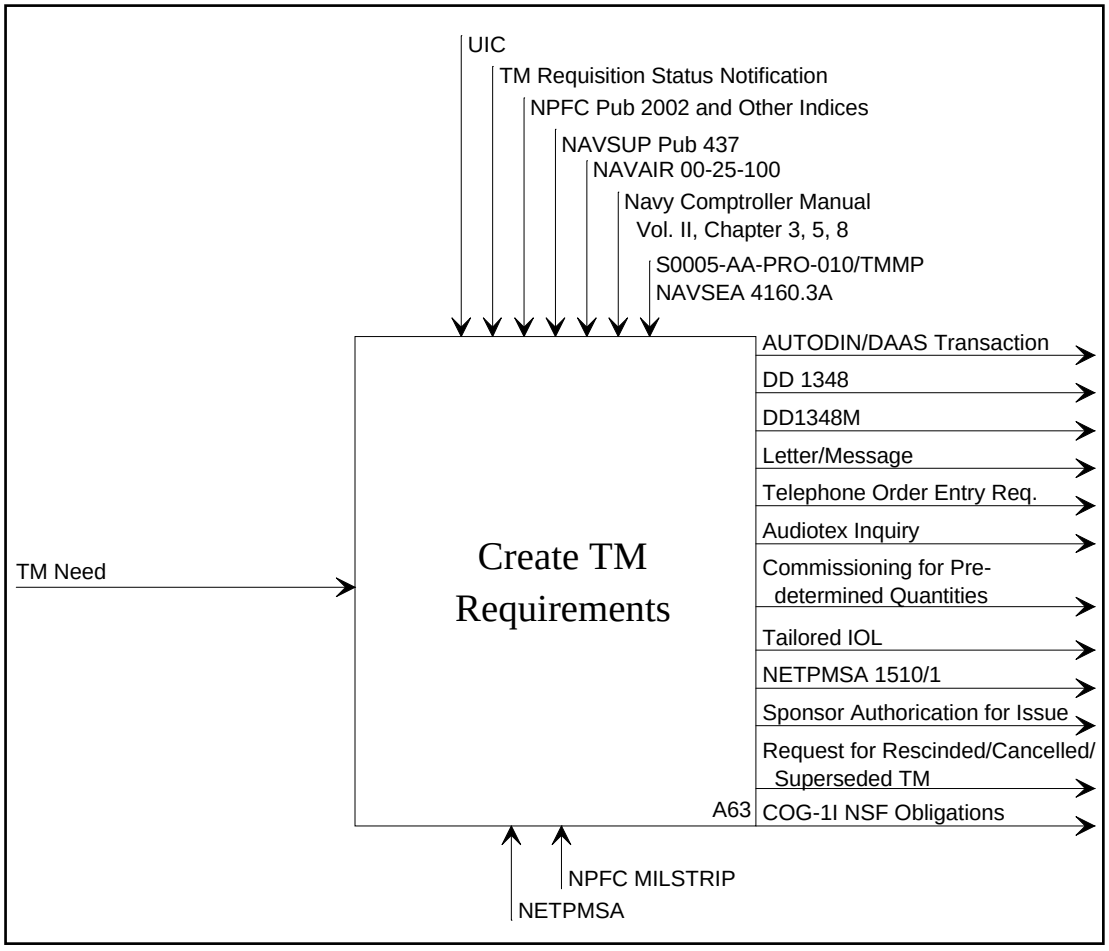

Figure 2-49, Navy - Create TM Requirements

Navy activities may requisition TMs/TOs from other DoD services, agencies, or organizations (i.e., Marine Corps, Army, Defense Logistics Agency, Air Force). Navy activities prepare the DD 1348 to request TMs from the Marine Corps (ARE-B), Washington, DC. Requests for Army TMs are submitted through NPFC and a letter of request is sent to US Army Publications and Printing Command, Alexandria, VA. Navy activities may also prepare a letter to the nearest Publications Requirements Manager of the nearest DLA field activity listed in NAVMATINST 5600.11 (series). For Air Force requirements, if the Navy has been assigned a TODO code, one-time requirements may be submitted on the AFTO 187 to OC-ALC/MMD Tinker AFB, OK. Alternatively, if the Navy activity has not been assigned a TODO code, a one-time requisition must be submitted by letter to OC-ALC/MMD.

2.2.2.6.1.4 NM - Distribute Manuals (A64).

Most Navy manuals are distributed by pinpoint distribution. The Navy distributes TMs by UIC or activity address codes. Technical Manual libraries or distribution offices, however, make follow-on distribution. The distribution of manuals is shown in Figure 2-50, Navy - Distribute Manuals. On receipt from distribution facilities (e.g., NPPS) publications may be consolidated for pickup by other bases or Navy units. Distribution offices performing this service record pick-up and receipt of manuals in accordance with local operating procedures. The distribution of directives and forms is accomplished in the same manner.

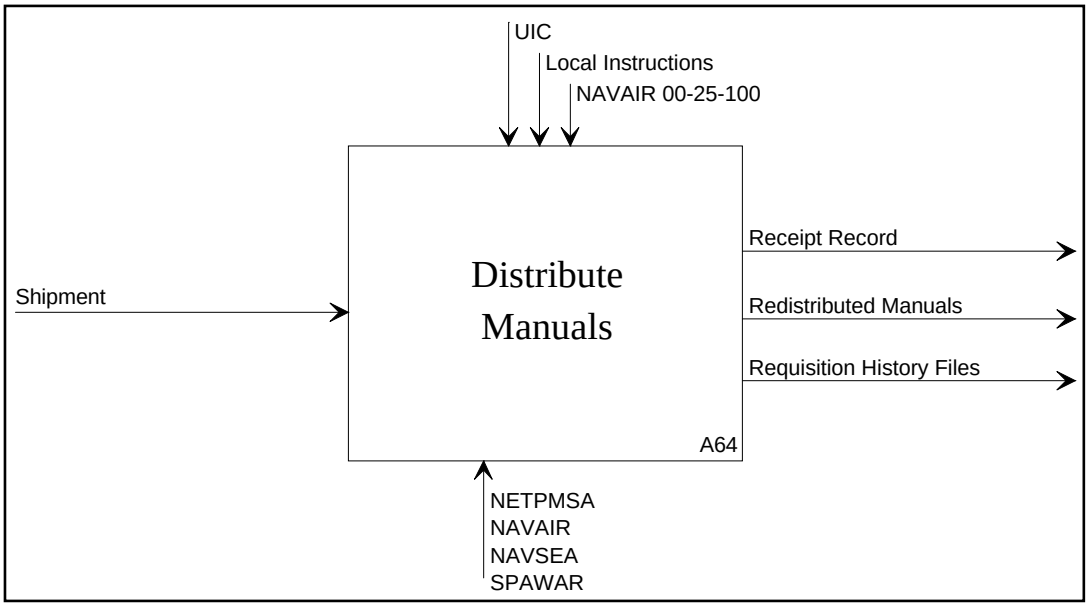

Figure 2-50, Navy - Distribute Manuals

2.2.2.6.1.5 Navy - Perform Reviews (A65).

Navy activities perform periodic reviews of TM requirements. This process is depicted in Figure 2-51, Navy - Perform Reviews. In NAVAIR, the Activity Requirements List (ARL) aids in the review of user requirements for TMs. Navy indices on publications and demand history records may also be used to facilitate the review of TM requirements. In conjunction with periodic and/or as required reviews, TM requisitions may be generated; TM deficiencies identified; request for automatic distribution created/updated/deleted; TM excesses and deficiencies reported; and needs for rescinded or canceled TMs identified. These reviews also apply to Navy directives and forms management.

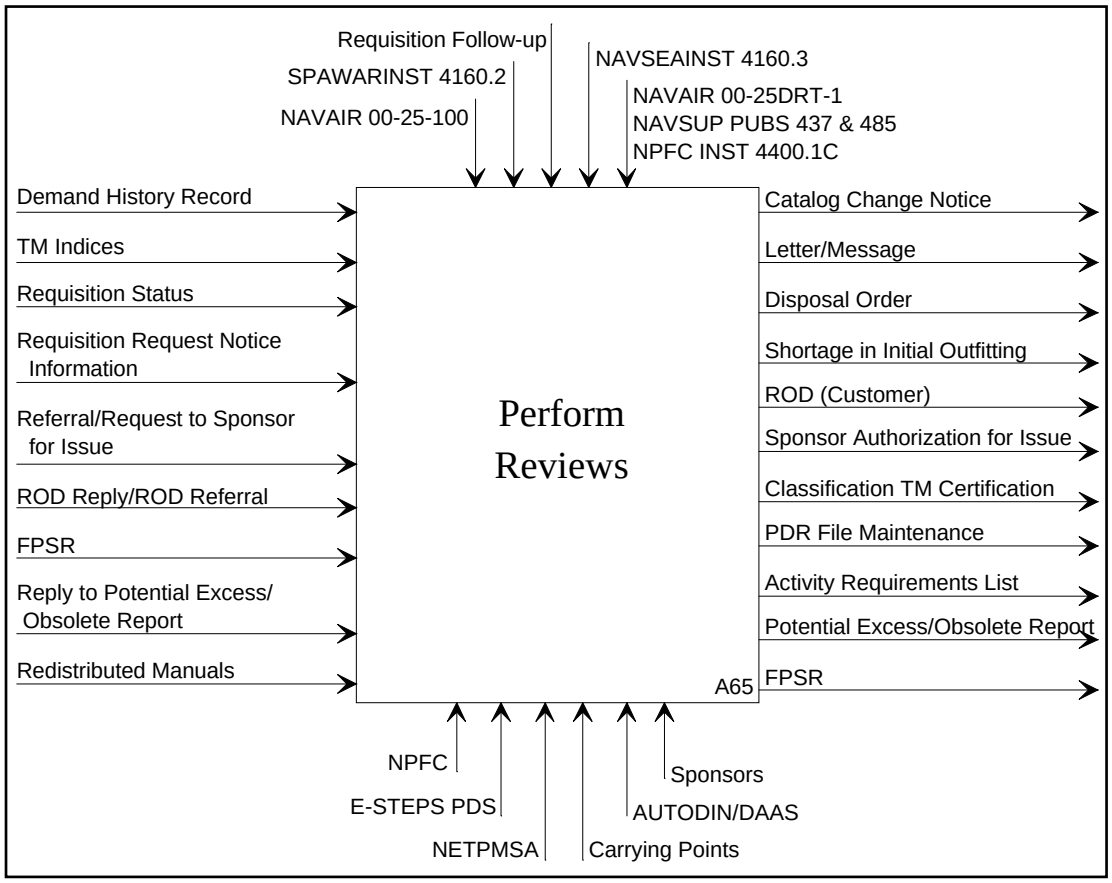

Figure 2-51, Navy - Perform Reviews

2.2.2.6.2 Current NM Organizations and Personnel Responsibilities.

The following reflects the key responsibilities of the primary participants to support these functions:

a. Naval Systems Commands/NSDSA/NATSF/TDC:

1. Develop and maintain distribution requirements tables, lists, or files to facilitate and control the dissemination of technical manuals.

2. Initiate requests for reproduction of technical manuals and technical directives, requests for distribution labels, and update records pertinent to printing, distribution, funding, stocking, and indexing.

b. NPPS:

1. Process mailing labels to the appropriate contractor responsible for reproduction and distribution of the TMs.

2. Accomplish Initial Distribution.

c. David Taylor Research Center (DTRC), SPAWAR TDC:

Formulate, develop, test, evaluate, and recommend improved TM procedures and systems.

2.2.2.6.3 Navy Equipment.

a. Standard office automation systems.

b. E-STEPS equipment (see Section 5 for more details).

c. NPFC System equipment (see Section 5 for more details).

2.2.2.6.4 Navy Deficiencies.

a. Manual processes cause extended delays.

b. Lost requisitions result in re-establishing requirements.

c. Labeling and address errors result in misrouting of TMs.

d. Manual processes are costly and labor intensive.

e. Requisitions filled out improperly by requesters, requisitions incomplete, or requisitions forwarded to the wrong stocking/administrating point.

2.3 Air Force.

2.3.1 Air Force Background.

The Air Force technical order (TO) system is the only official medium for disseminating technical information and instructions for installing, operating, maintaining, producing or modifying fielded Air Force equipment and materials. A TO constitutes a military order and compliance is mandatory by order of the Secretary of the Air Force. There are five types of technical orders authorized for issue: technical manuals (TMs), Methods and Procedures Technical Orders (MPTOs), Index Type Technical Orders (TOs), Time Compliance Technical Orders (TCTOs), and Abbreviated Technical Orders (ATOs). These TMs are all issued as TOs and are assigned TO numbers for control in the Air Force TO system.

HQ USAF/LG is responsible for determining basic TO policy and approving policy changes. Flight Manual policy is the responsibility of HQ USAF/XO. All Air Force systems and equipment, except those excluded in Air Force Regulation (AFR) 8-2, are operated and maintained in accordance with procedures described in TOs.

2.3.1.1 Current Air Force TO System.

The current Air Force TO system was established in the 1940s. Though the system has been effective, the increase in volume and complexity of TO data over the years has exceeded the capability of the system.

The existing process for managing and providing TOs to users has become obsolete and cannot support the expected influx of digital TO data. Modem, high-technology weapon systems are very complex with equally complex TOs. This places considerable burden on the user already trying to cope with an antiquated TO system. The availability and ease of access to current and correct technical data is an absolute necessity to assure high quality maintenance and operations of Air Force systems and equipment. Several weapon systems, to be acquired in the early 1990s, will use digital display devices to present TO data to the user. These systems will require digital data to be delivered to the user site. Although most Air Force contractors have incorporated digital technology for creating TOs, and the Air Force has acquired the Automated Technical Order System (ATOS) for digital processing of changes to paper TOs, the Air Force cannot currently accept, manage, or distribute digital TO data.

The current TO system is paper based. Most of the TOs used throughout the Air Force are paper copy. Users take TO files,

TOs, or extracts of TOs to their respective job sites to perform technical tasks necessary to manage, maintain, and operate weapon systems or associated support equipment. The Air Force TO system currently contains in excess of 150,000 different TOs which contain more than 20,000,000 pages. Management of these TOs includes acquisition, storage/warehousing, technical and engineering support, distribution, requisition, text and graphics (content) changes, indexing, status tracking, and documenting accountability.

TO management is primarily based on methods and procedures established in the 1940's. A primary area those methods and procedures addressed was the TO change process. The TO change process is time consuming and labor intensive. A routine change, be it one page or many, can involve up to 13 (or more) organizational processes and take an average of 210 days (40 days for an urgent change) to place it in the postal system as an official TO change. Change distribution throughout the Air Force approximates 2,500,000 change pages per year. These change pages are manually inserted into the users' TOs.

For accountability purposes, a user's requisition and use of a particular TO could involve up to 14 (or more) different requisition, warehousing, accounting, contracting, and inventory record entries. These entries use media such as letters, the Defense Switched Network (DSN) or message, open contract documents, routing label records, batch processing equipment, and Air Force TO forms. This time consuming process causes routine requisition and distribution of a TO to average 45 days, with as many as 120 or more days occurring in some cases. Responses to priority requests average, 10 days. Although paperwork is not the sole driver, it constitutes a significant part of the requisition process. The loss of requisition information at any level may not be quickly identified and requires a complete restart of the process and loss of valuable time.

Inventory management and distribution of basic TOs and associated changes is a burdensome and time consuming task as TO changes are often not physically located with the basic TO. The Air Force Logistics Command (AFLC) has in excess of 340,000 square feet of floor space dedicated to TO storage. Some storage is provided in facilities which do not contain adequate environmental protection. Lack of a proper storage environment for historical TO master camera-ready copies can cause a loss in the quality of the master reference for some Air Force TOs. This manual storage/distribution system requires considerable manpower. The impact of ongoing and planned weapon system acquisitions further compounds the current problems. The B-lB, for example, added Over 7,000 TOs which contain approximately 1,000,000 pages. In today's environment of extended weapon

systems life cycles, new TO additions push the TO system to a state of unacceptable support and response to readiness requirements.

2.3.1.2 Air Force TO System Responsibilities.

The mission of AFLC is to provide the logistics resources necessary to keep Air Force units and weapon systems in a state of readiness and to sustain their operations in peace, war and contingencies. Through the direction of the Air Force Centralized Technical Order Management (CTOM) Group and the HQ AFLC Deputy Chief of Staff for Materiel Management is responsible for the management of the Air Force TO system by ensuring the currency of the content of Technical Manual Specifications and Standards (TMSS), and the coordination and maintenance of TO documentation. AFLC determines and furnishes the acquisition agency with the coordinated Air Logistics Center (ALC) requirements for TOs and participates in the preparation of Requests for Proposals (RFPS) and Statements of Work (SOWS) for acquisition of new TOs. AFLC budgets, funds, and acquires all material and printing for TOs which are not undergoing acquisition or which have been formally transferred to AFLC. AFLC establishes and maintains the Air Force system for managing, improving, numbering, indexing, storing, requisitioning, and distributing TOs. AFLC evaluates new methods for data presentation, storage, and rescission.

The Directorates of Materiel Management at the ALCs and the Directorate of Metrology at the Aerospace Guidance and Metrology Center (AGMC) are responsible, either directly or through contracts, for the management of all TOs assigned to their Centers. The Special Weapons Directorate at San Antonio Air Logistics Center (SA-ALC) is responsible for overall management of nuclear weapons TOs in the Air Force inventory. The Air Force Systems Command (AFSC) Weapons Laboratory (WL/NTSAC) is responsible for the management of the content in all Nuclear Weapon System TOs assigned.

The System Program Offices/Program Management Offices (SPO/PMO) and System Program Managers (SPMS) assigned to different organizations (AFSC, AFLC, Air Force Communications Command (AFCC), etc.) are responsible for TO acquisition management during the acquisition phase of weapon system/equipment under the guidelines of AFR 8-2 and TO 00-5-3. TO acquisition is a planned, coordinated, and scheduled process which involves the assigned ALC, SPO, the using commands, and the contractor, to deliver validated and verified formal TOs prior to, or concurrent with, the delivery of hardware to operational sites.

Detachment 63, 3100 SMSQ at Indian Head Naval Ordnance Station, MD, is responsible for the management of 60-Series Non-Nuclear Explosive Ordnance Disposal TOs utilized by the Air Force.

2.3.1.3 Air Force Automation.

Automated TO management resides in the Logistics Management of Technical Order System (LMTOS) (Data System Designator G022), ATOS, the Automated Technical Order Management System (ATOMS), Worldwide Keypunch Replacement Program (WKRP), and both similar and locally developed automated systems for AFRO Form 187 processing.

2.3.1.3.1 G022.

The G022 is a 1960's batch-processing system for management of the TO inventory. This system has undergone several hardware upgrades over the years. Software updates have consisted of patches to overcome specific problems rather than redesign to enhance system performance, maintainability and reliability. The condition of the current system is marginal and significant periods of downtime are increasingly frequent.

The G022 consists of six subsystems which are the responsibility of Oklahoma City Air Logistics Center (OC-ALC)/MM. These subsystems not only provide the processing support for controlling the automatic production of distribution labels for TOs and TO updates, but also provide several TO management information reports. Output products are predominately paper, are not real-time, and do not depict the required information to make management decisions. The lack of real-time input and data base review capability makes it nearly impossible to maintain the data base. The G022 subsystems are:

a. Subsystem G022A: Distribution of Technical Orders: This subsystem centrally processes inputs, maintains files and produces outputs for centralized inventory requirements, and distribution for world wide users of Air Force TOs. The subsystem also produces products for the Joint Munitions Effectiveness Manuals (JMEMs), Joint Technical Coordinating Group (JTCG) technical handbook, the Security Assistance Technical Order Data System (SATODS), and the Computer Program Identification Numbering (CPIN) system.

b. Subsystem G022B: Preparation of Technical Order Indexes: This subsystem maintains files and produces outputs which result in the publication of numerical indexes and cross reference indexes. This system also includes the maintenance of the Master Index History File.

c. Subsystem G022C: ALC Technical Order Logistics Subsystem: The G022C, serves as the communications hub for the G022 system. It receives G022 transactions from the ALCs via the Intersite Gateway, and shreds data to subsystems G022A, G022B, G022D, G022E, and G022F. Output from the G022 system is distributed by G022C to the appropriate ALC via the Intersite Gateway. The system provides for automatic feedback of confirmation and input to OC-ALC.

d. Subsystem G022D: Technical Order Management Information System: This subsystem maintains files, provides status of Technical Improvement Reports and publication changes. It also provides output products which cross reference TOs to part numbers, and part numbers to TOs.

e. Subsystem G022E: Occupational Safety and Health Act (OSHA) Review System: This subsystem centrally processes, maintains files, and prouces products reflecting TOs reviewed for OSHA standards.

f. Subsystem G022F: Technical Order Repository Management System: This subsystem maintains Technical Order location information and interfaces with G022B System to provide disposal listing.

2.3.1.3.2 ATOS.

ATOS consists of computer hardware and software designed to automate and expedite preparation of TO reproducible copy and updates at the ALCs and AGMC.

ATOS automates generation of changed TO pages through a technical publishing system. Text is input and processed through a text processing system in Standard Generalized Markup Language (SGML) format. Graphics are input in an Auto-trol format which is unique to the Computer Aided Design (CAD) equipment used to input graphic data. Each ATOS site has a text and graphics scanner for digitizing current paper formatted TOs. ATOS provides a limited capability to accept MIL-STD-1840 or contractor unique format developed data and convert it to MIL-STD-1840 format. A publication preview subsystem is used to combine digitized text and graphics into digitized page images which are used as inputs to the phototypesetter which outputs camera-made copy for reproduction. A VAX 11/785 controls system operation and has sufficient on-line mass storage to hold working material in digital format throughout the preparation process. An optical storage system provides for storage of all ATOS data. ATOS output is currently a paper reproducible master from which multiple copies can be reproduced.

2.3.1.3.3 ATOMS.

This is a personal computer (PC) based program designed to assist the TO Distribution Office (TODO). It provides file management to TOs on-hand, on-order, location, account numbers, and discrepancies. It is compatible with standard Department of Defense (DoD) contract purchased machines.

2.3.1.3.4 WKRP.

This is essentially a key-to-disk program designed to be run on a PC. It provides the 80 column input requirements which is placed on a floppy disk and delivered to the base level computer for transmission of data to G022. Only the functionality related to ordering TOs will be included in the system.

2.3.1.4 Air Force Modernization.

The system will enable the Air Force to reach its goals for a TO system that meets the Computer-aided Acquisition and Logistics Support (CALS) requirements and be the core program for the modernization of the Air Force TO system. The automated data system (ADS) will support the functionality of the Air Force TO system and win be implemented by existing organizations at sites listed in Section 4.1.3.3, Table 4-3.

The system will provide an ADS to assist in the management, improvement, acquisition, publishing, stocking and distribution of TOs in paper and/or interactive digital media. Current responsibilities of the commands concerning policy, management, inventory, distribution, maintenance, requisitioning and acquisition will continue. In support of this functional structure, installed components will address all forms of TOs and encompass the TO life cycle from inception to rescission.

Also, the system will be developed to support a user distribution and display system at the organizational, intermediate and depot level of maintenance.

2.3.2 Air Force Existing Methods and Procedures.

This section describes the methods and procedures that are employed to manage TOs in today’s environment. The methods and procedures that will be employed after the system is operational will remain essentially the same. The main difference between the before and after environments will be the use of the ADS to complete or assist in the completion of those methods and procedures.

Methods and procedures for the management and use of TOs were used to develop and define the functional flow model. The Air Force Technical Order System top level diagram with Inputs (I), Outputs (O), and Controls (C) is depicted in Figure 2-52, Air Force Technical Order System.

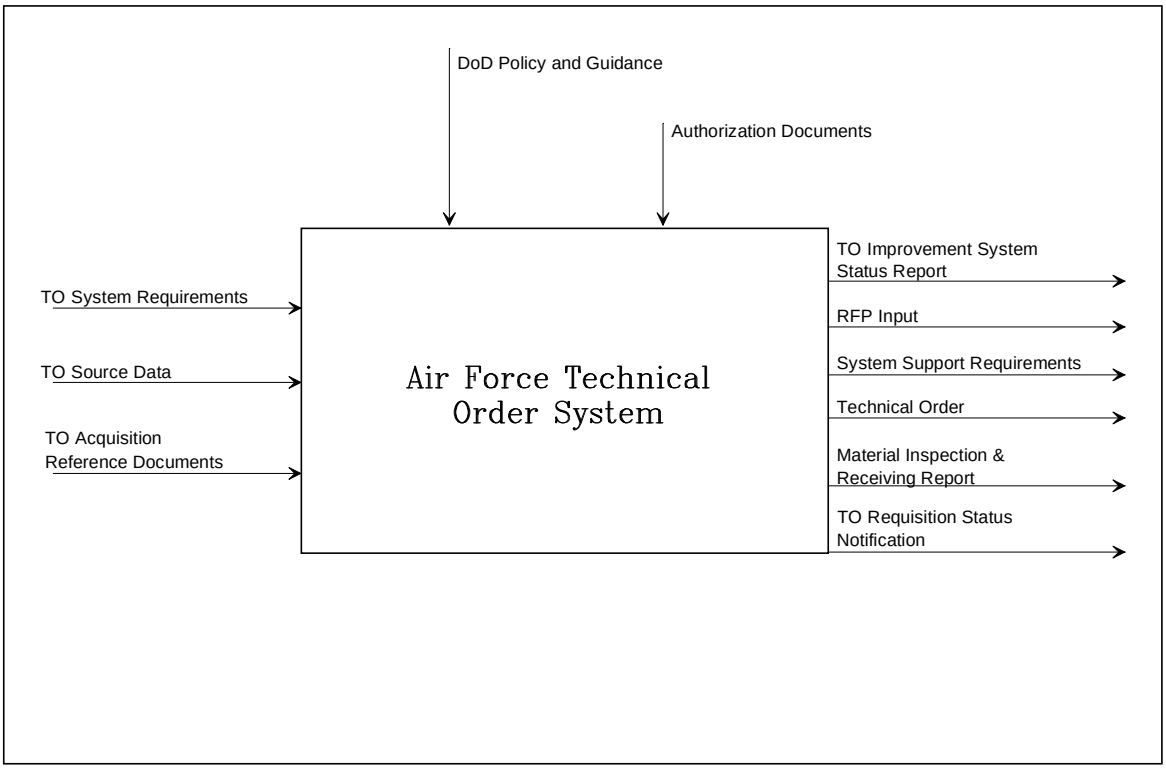

Figure 2-52, Air Force Technical Order System

Sections 2.3.2.1 through 2.3.2.6 provide a description for each of the functions and the sub-functions found in the Air Force Technical Order System functional model. Figure 2-53, Air Force Technical Order System Node Tree, depicts the functions and sub-functions of TO management. The interconnections (i.e., I/O/C) of the six major functions are depicted in Figure 2-54, Air Force Technical Order System Major Functions. For each of the six key functional areas, there is an accompanying figure that depicts the interconnections between the sub-functions, a listing of applicable references, and a brief description of responsibilities by organization.

The management of Air Force TOs is accomplished using DoD Directives and Standards; by HQ USAF/LE through the Centralized

Technical Order Management (CTOM) Group; and the application of Air Force specifications and standards, regulations, and Methods and Procedures TOs. AFLC, AFSC, and AFCC acquire TOs in response to Air Force needs. TOs are maintained and updated by those organizations with the technical expertise and responsibility. Reproduction, storage and distribution services are provided by the Information Management (IM) Directorate supported by AFLC and/or the acquiring command.

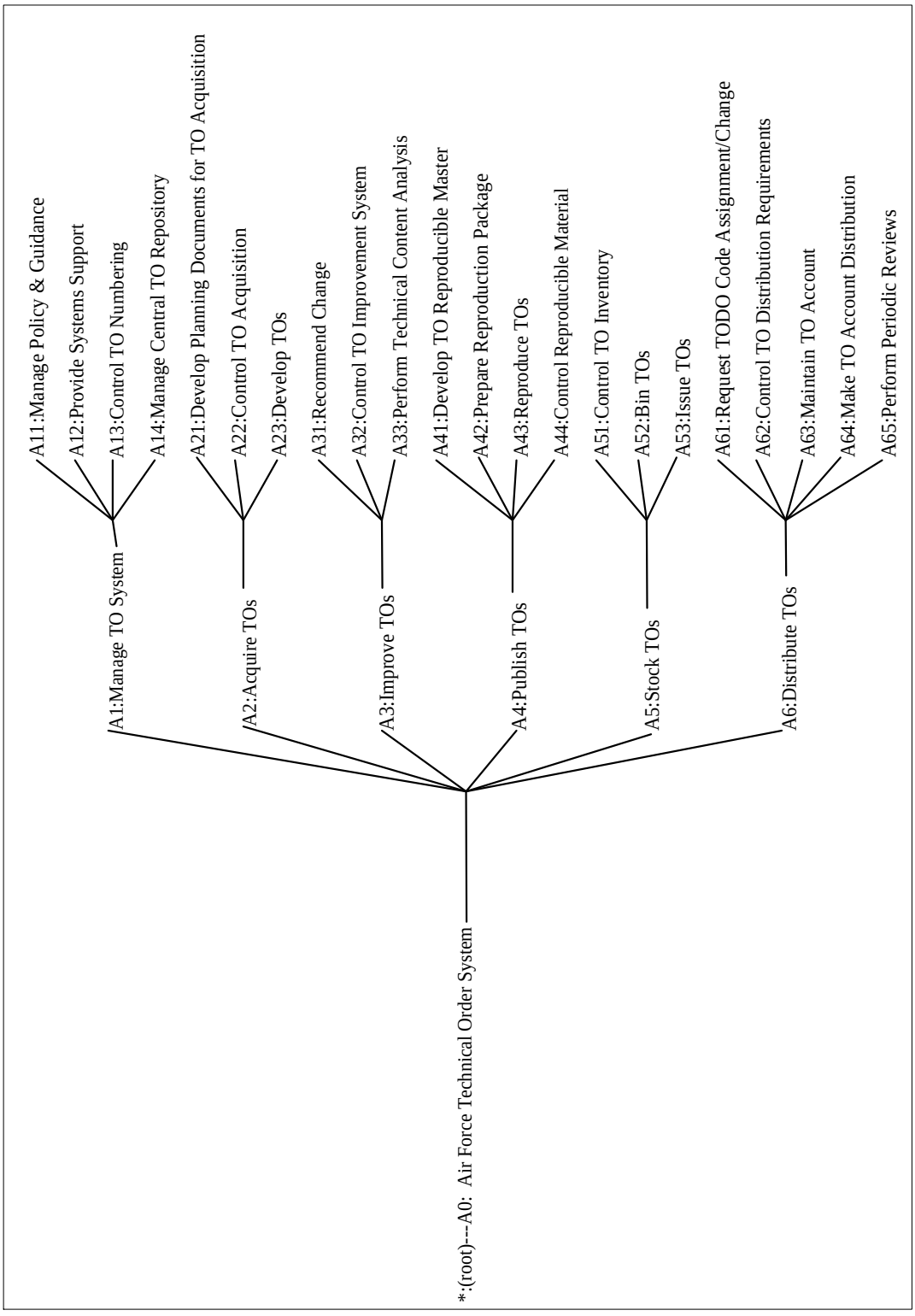

Figure 2-53, Air Force Technical Order System Node Tree

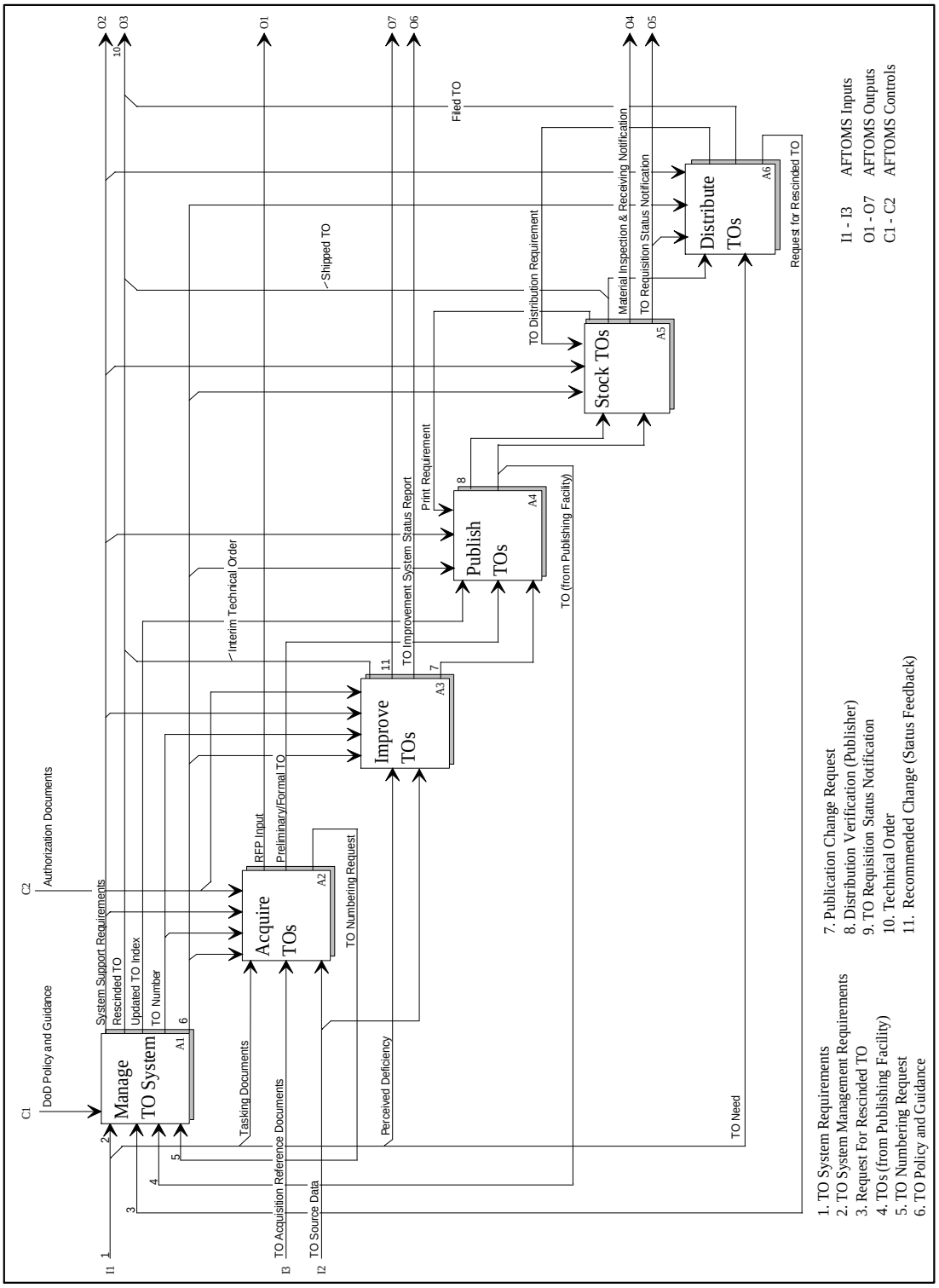

Figure 2-54, Air Force Technical Order System Major Functions

2.3.2.1 Manage TO System (A1).

2.3.2. 1.1 Air Force Description.

Manage TO System, shown in Figure 2-55, ensures control and standardization of the major TO system functions: management, acquisition, improvement, publication, stocking and distribution of TOs.

The Air Force TO system is managed by:

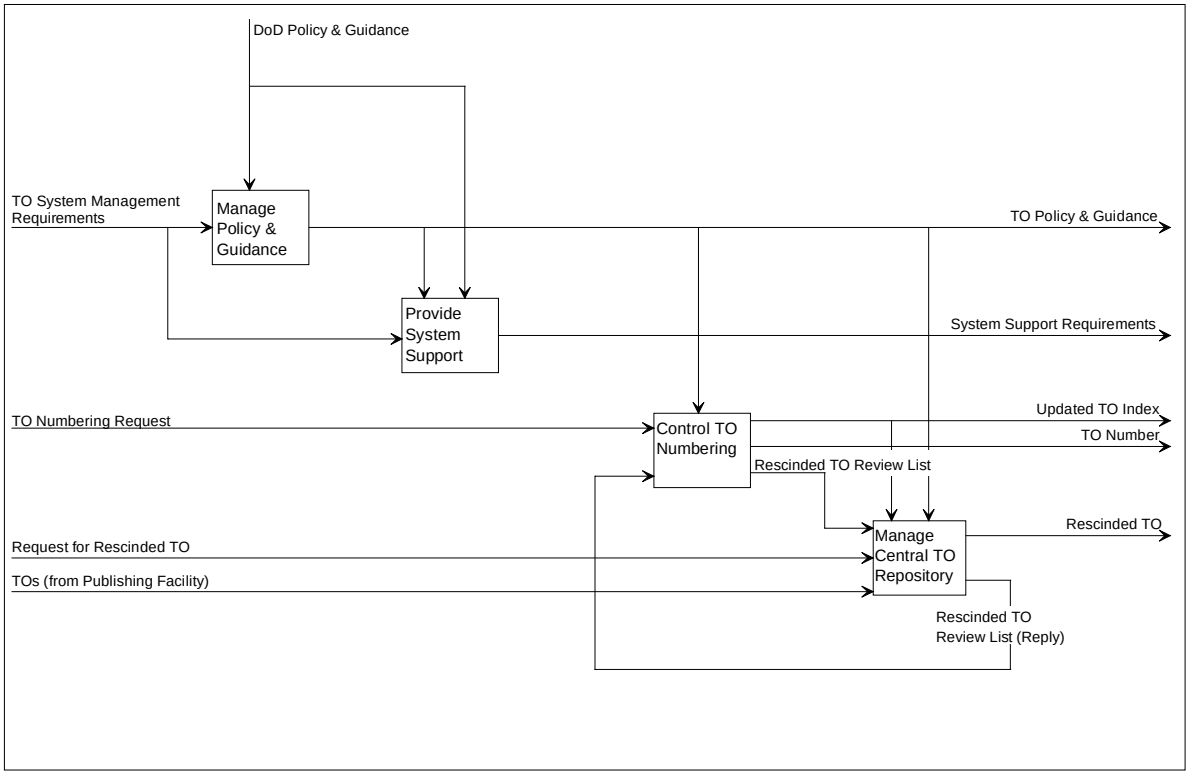

Figure 2-55, Manage TO System

a. The creation and maintenance of TO Policy and Guidance (Air Force and MAJCOM regulations, MPTOS, and TMSS).

b. The identification of system support requirements (budgeting, staffing, services, automated data processing support) needed for the Air Force TO system to operate.

c. Centralized control of TO numbering, indexing and requisitioning.

d. Management of the Central TO Repository.

2.3.2.1.1.1 Air Force - Manage Policy and Guidance (A11).

Manage Policy and Guidance, Figure 2-56, ensures a common approach to TO system operation. The Air Force TO system is managed through the publication of Air Force policy and guidance. It includes Air Force and MAJCOM regulations, TMSS, and selected TOs specifically written as guidance for the use and management of the TO system. In response to system management requirements, new or revised policy and guidance is developed, approved, and distributed. Joint regulations are developed and implemented to identify and assign command responsibility when multiple organizations are involved. TMSS controls the development of TO material by defining format, style and content requirements.

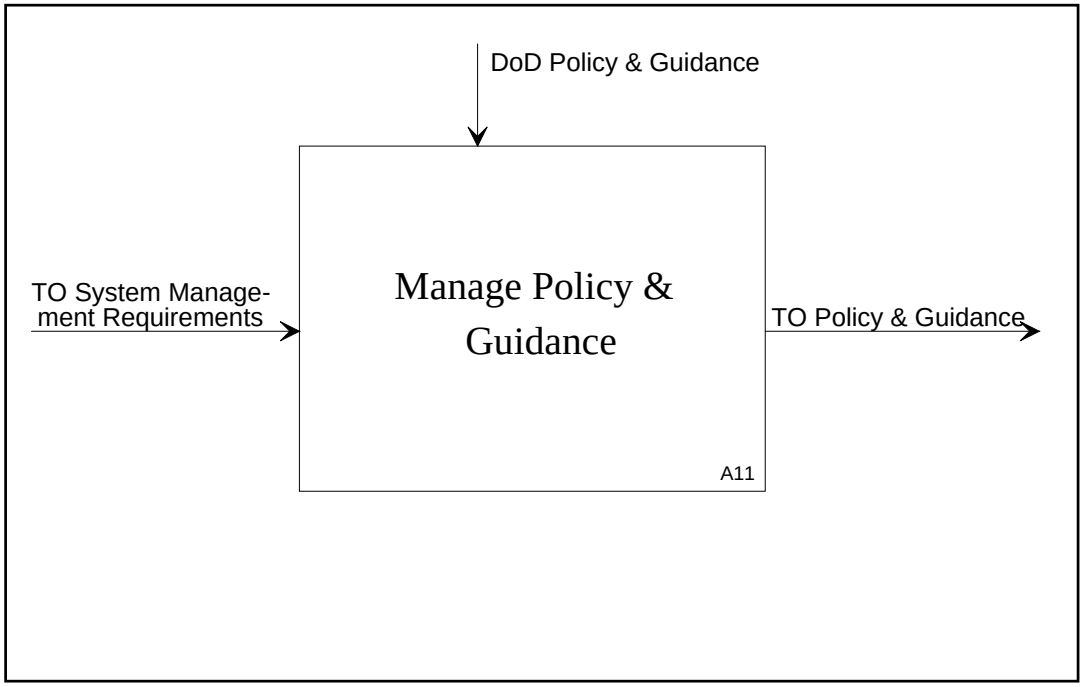

Figure 2-56, Manage Policy and Guidance

2.3.2.1.1.2 Air Force - Provide Systems Support (Al2).

Provide Systems Support, shown in Figure 2-57, for the acquisition and management of TOs is required to provide the resources necessary for the TO system to operate. This is

accomplished through organizational responsibility, selection of responsible managers (TO Managers, Equipment Specialists, etc.), the creation of TO support units, Technical Order Control Units (TOCU), Central TO Control Unit (CTOCU), TODO, etc., and the creation of review and support boards, the identification of personnel, facilities, services, funds and automation resources required to support the TO system.

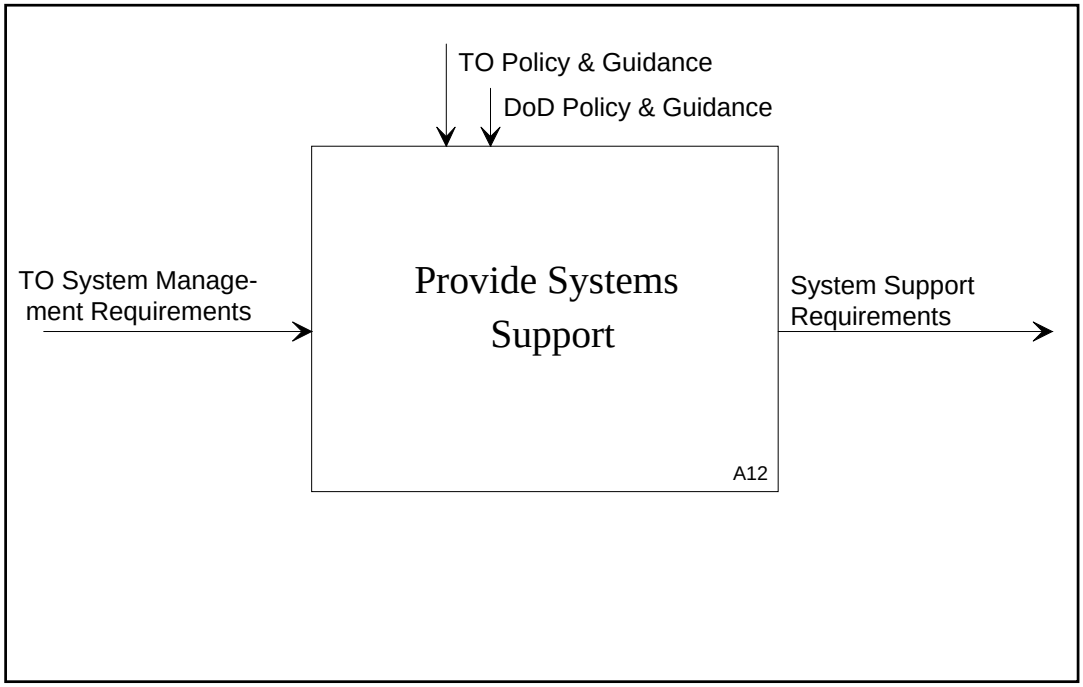

Figure 2-57, Provide Systems Support

Systems Support includes the requirement for different types of TO managers at various levels of command and physical locations. Various work groups are established to work and solve specific problems.

2.3.2.1.1.3 Air Force - Control TO Numbering (Al3).

Central processing of TO numbering is accomplished to ensure unique identification of each TO. The purpose of controlling TO numbering as reflected in Figure 2-58, is to provide stability in TO numbering patterns and avoid inaccurate TO number assignments. Control of TO numbering is accomplished through centralized processing of all TO numbering requests at OC-ALC/MMD or SA-ALC/SWPD for nuclear-related TOs or video tapes. The basic task

of TO numbering is to group similar TO data into categories, systems, equipment series and equipment subseries by means of an identifying numeric or alphanumeric TO number and notifying the requester of the action taken or TO number assigned. The control of TO numbering also includes actions taken to reinstate, renumber, cancel, or rescind a TO and the actions taken are reflected in the TO indices.

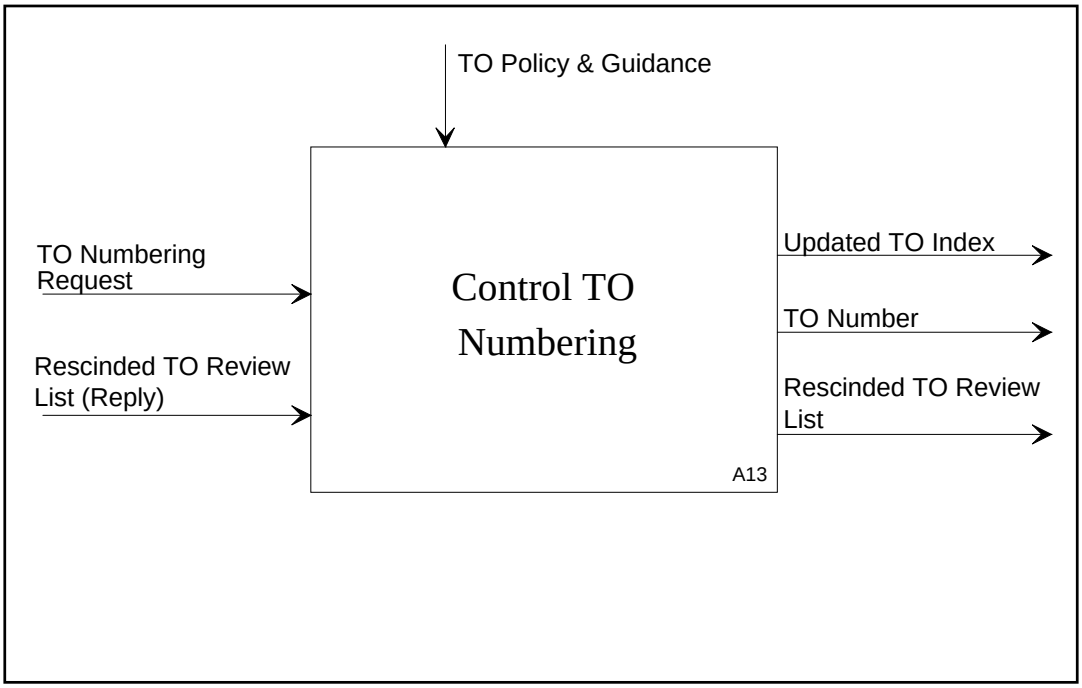

Figure 2-58, Control TO Numbering

The 60-Series Non-Nuclear Explosive Ordnance Disposal (EOD) TOs are produced, funded and managed by the Navy with Detachment 63, 3100 SMSQ, as the Air Force management office IAW DoD Directive 5160.62. The 60-Series Non-Nuclear EOD TOs are outside the G022 system, are requested by EOD personnel through their respective MAJCOM EOD managers for validity. MAJCOM EOD managers forward the request to Detachment 63, 3100 SMSQ, who approves/disapproves EOD TODOs and controls distribution of these manuals.

2.3.2.1.1.4 Air Force - Manage Central TO Repository (A14).

A copy of each TO, change, revision or supplement must be provided to the repository upon publication to comply with the Federal Records Act and with Air Force needs. TOs are maintained

in the repository past rescission dates to ensure all usage requirements are satisfied. The TOs are maintained in the repository as reflected in Figure 2-59, Manage Central TO Repository, for the period of time specified in Air Force Regulations (six years). Copies of Nuclear related manuals indexed in TO 0-1-11N-C are maintained for five years after rescission. The 60-Series Non-Nuclear EOD TOs are warehoused after rescission, by the Navy, and releasable only upon validated request through the commanding officer, Navy EOD Technical Center (NAVEODTECHCEN), Indian Head, Maryland. Upon receipt of a validated request, rescinded TOs will be copied and issued.

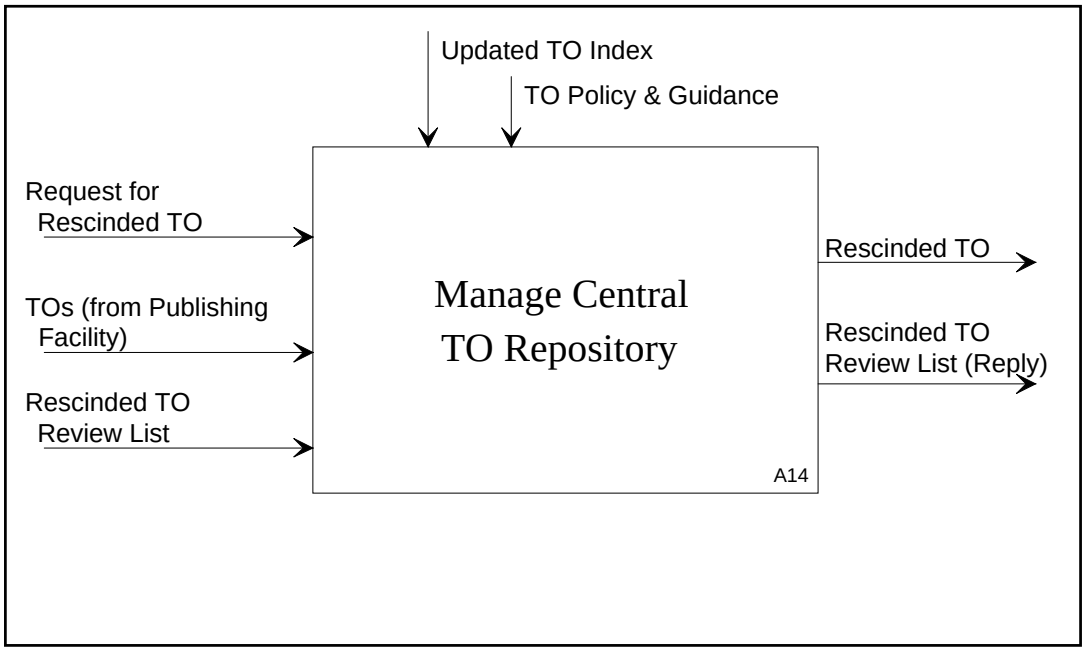

Figure 2-59, Manage Central TO Repository

2.3.2.1.2 Current Air Force Organizations and Personnel Responsibilities

The following is a list of key responsibilities for each command:

1. USAF:

(a) Issues Air Force policy for managing the TO system and provides final authority for that policy.

(b) Approves major changes to the TO system.

(c) Approves all service tests and studies of new techniques for use in the TO system.

(d) Chairs the CTOM Executive Steering Group and CTOM Committee meetings.

(e) Reviews AFR 60-9 to ensure it is consistent with the TO system.

(f) Coordinates TO policy changes affecting the Aircrew Flight Manuals Program with the Program Manager.

2. AFSC/AFCC:

(a) Budgets and funds for acquisition and maintenance of applicable TOs during the acquisition phase.

(b) Complies with AFR 66-19 when Joint Services TOs are assigned.

(c) Provides membership to the CTOM Executive Steering Group, CTOM Committee and work groups as required by the CTOM charter.

(d) Ensures TO management responsibility is identified and assigned to the initial SPO cadre.

3. AFLC:

(a) Ensures all revisions and changes to TMSS are coordinated with AFSC, AFCC, Air Training Command (ATC) and operating and maintaining commands.

(b) Acts as the participating department activity in the DoD TMSS program for the Air Force.

(c) Reviews and approves deviations and waivers to military specifications for which AFLC is the preparing activity.

(d) Complies with AFR 66-19 when Joint Services TOs or systems are acquired.

(e) Establishes and operates the Air Force system for numbering, indexing, storing, requisitioning and distributing TOs.

(f) Controls the distribution and maintenance cost information.

(g) Provides membership to the CTOM Executive Steering Group, CTOM Committee and work groups as required by the CTOM charter. Serves as executive secretary for the Executive Steering Group and Committee.

(h) Evaluates new methods for data presentation, storage and retrieval.

(i) Receives on issuance a record copy of each TO.

(j) Budgets and funds for acquisition and maintenance of applicable TOs during the acquisition phase when AFLC is the acquiring activity.

(k) Budgets and funds for maintenance of applicable TOs after Program Management Responsibility Transfer (PMRT) from the acquiring command.

4. ATC:

(a) Provides membership to the CTOM Executive Steering Group, CTOM Committee and work groups are required by the CTOM charter

(b) Provides training to support the TO system.

(c) Provides personnel to support TO development for ATC or when requested and funded by a program office.

5. Air Force Operational Test and Evaluation Center (AFOTEC):

(a) Manages Operational Test and Evaluations (OT&E) and evaluates systems TOs in conjunction with users.

(b) Provides membership to the CTOM Committee and work groups as required by the CTOM Charter.

6. Other MAJCOMs and Separate Operating Agencies:

(a) Ensures compliance with the policies of AFR 8-2 and all applicable TOs.

(b) Conducts programs to familiarize command personnel with the TO system.

(c) Assists AFSC and AFLC in controlling and reducing costs of TOs.

(d) Provides membership to the CTOM Executive Steering

Group, CTOM Committee and work groups as required by the CTOM charter.

(e) Provide membership to the Interservice Group on exchange of TO technology.

2.3.2.1.3 Air Force Equipment.

a. Standard office automation systems.

b. G022 equipment (see Section 5 for more detailed information).

2.3.2.1.4 Air Force Deficiencies.

a. Current TO management is fragmented.

b. Current TMSS are outdated.

c. Current TMSS do not address digital data.

d. Current policies and procedures are not up to date or compatible and do not address handling of digitized data.

e. G022 does not address all TO system support requirements.

f. There is a severe lack of standard office automation equipment, manpower and funds to meet system needs.

2.3.2.2 Acquire TOs (A2).

2.3.2.2.1 Air Force Description.

The Air Force acquires TOs as reflected in Figure 2-60, Acquire TOs, to maintain and operate weapon systems and equipment. All Air Force equipment and systems except those specifically excluded by regulation are operated and maintained according to procedures described in TOs. Requirements for new TOs result from weapon system acquisition, equipment acquisition, changes in operations and/or maintenance concepts, and system modification programs. Those agencies involved in the TO acquisition process include the agency procuring the TOs (acquiring agency), the TO developer (either contractor or government), the TO user (using agency), the Supporting Command and any other organizations indirectly or directly supporting the acquisition effort.

TO acquisition includes acquisition planning, development of government TO planning documentation, the review and approval of

that documentation, controlling the TO development effort, and the development of the TO.

The overall system program tasking documents identify and define the requirements for TOs to support the weapon system, equipment or modification being acquired. TO acquisition reference documents are used to guide the development effort and to assist in the development of program documentation.

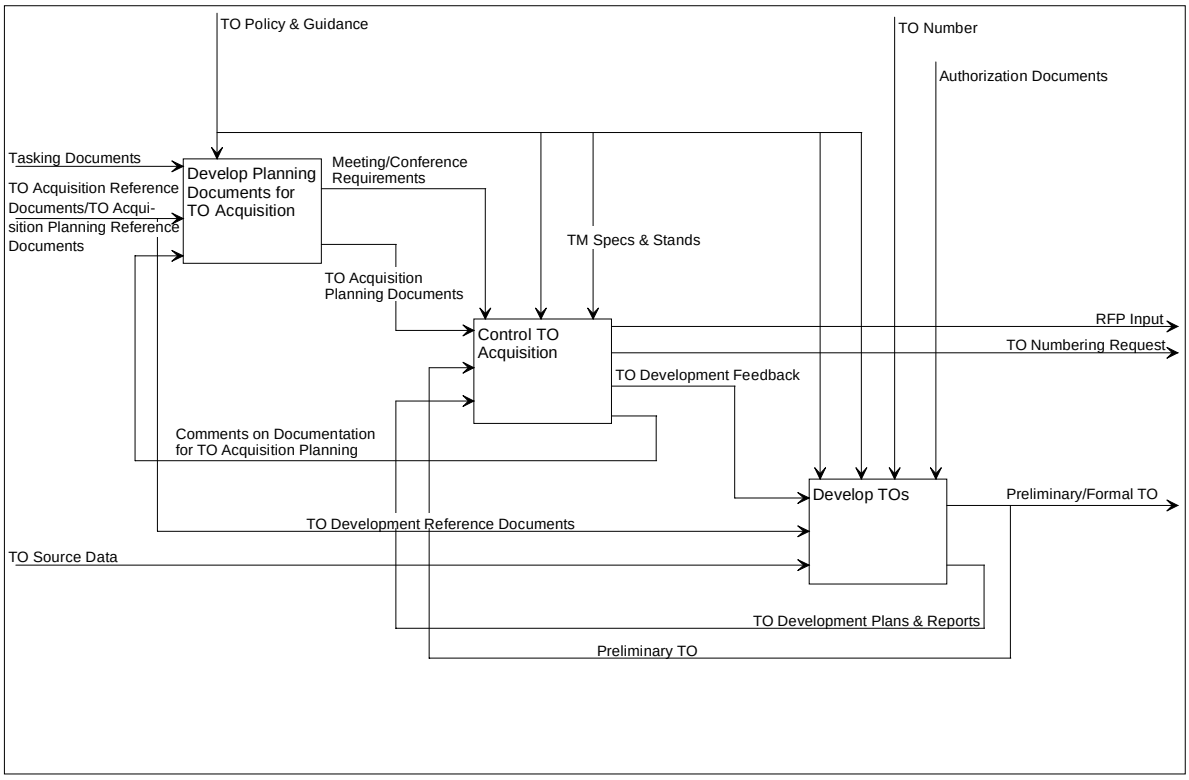

Figure 2-60, Acquire TOs

2.3.2.2.1.1 Air Force - Develop Planning Documents for TO Acquisition (A21).

Planning documentation for TO acquisition, as reflected in Figure 2-61, Develop Planning Documents for TO Acquisition, is written by the Govemment to identify TO requirements for input to the Request for Proposal (RFP) and to plan for the organizations, procedures, and schedules required to support and control development of TOs.

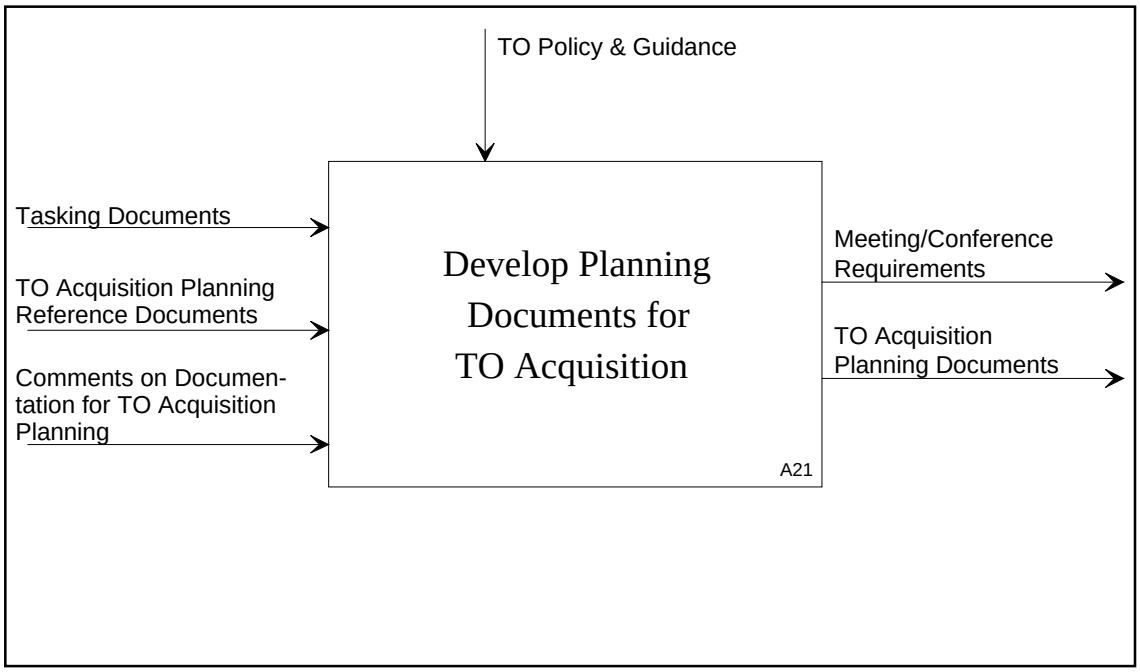

Figure 2-61, Develop Planning Documents for TO Acquisition

TO documentation requirements are gathered from system tasking documents, requirements analysis, meetings, and data calls. TO acquisition planning reference documents are used as a source for developing the required planning documents. The documentation developed includes drafts of the TO Contracts Data Requirements List (CDRL), Technical Manual Contract Requirements (TMCR) Document, SOW tasks for TOs, TO Verification Plan (VP), and the Technical Order Management Plan (TOMP).

These documents identify the organizations involved in the acquisition process, the development schedules, required technical and management data, required documentation reviews (meetings and conferences), TO projected costs and PMRT requirements. These are then reviewed and coordinated with all interested parties.

Once reviewed, coordinated, and approved by all required agencies, the documentation provides the guidelines for subsequent program management and technical manual development.

2.3.2.2.1.2 Air Force - Control TO Acquisition (A22).

Control of TO acquisition, as reflected in Figure 2-62, Control TO Acquisition, ensures the accurate and timely development of TOs to meet Air Force needs. Control of the TO acquisition process is accomplished through the review of the documentation developed by the Government for program management, review of contractor developed management plans, on-going reviews of the TOs as they are developed, and government verification of the TOs.

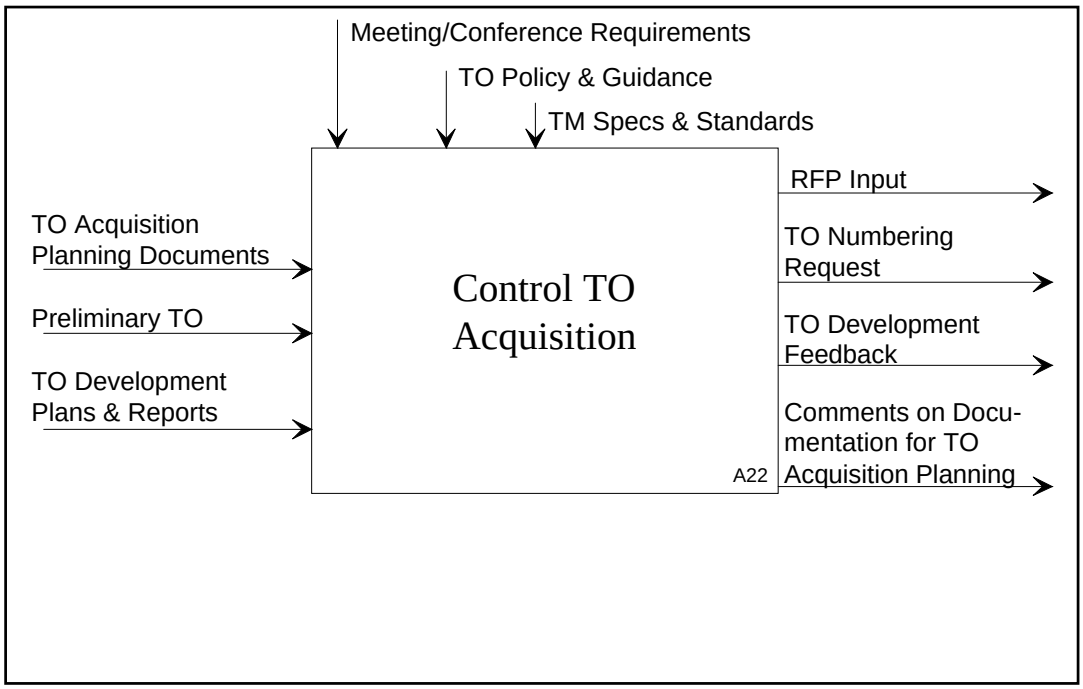

Figure 2-62, Control TO Acquisition

Development planning documentation for TO acquisition provides the required RFP inputs for TOs. RFP input is reviewed and approved for inclusion into the RFP. Government TO development plans are also reviewed and approved. Reviews are performed and comments and approvals are made on plans, reports, and draft TOs as produced by the developer (either the Government or contractor). Comments and approval/disapproval results are returned to the TO developer. All USAF TO Requirements are documented and placed on contract using TMRC 86-01.

As the individual requirements for TOs are identified and approved, TO number requests are generated, TO numbers are assigned, and field users establish their Initial Distribution requirements. If the TO is identified as a Preliminary Technical Order (PTO), users may order from the SPO.

In Process Reviews (IPRS) are performed to ensure that TOs are being prepared in accordance with the applicable TMSS for style and format and other contractual requirements. These reviews allow the Government acquiring agency to provide guidance concerning the technical content of the TO and evaluate the progress of the TO development.

Verification of TOs is the process by which a developer-validated PTO is tested and proven by Air Force personnel for adequacy of operation and maintenance of systems/equipment acquired for operational units. Verification is also used to certify that PTOs are technically accurate and compatible with the hardware and operating environment. Developing, using, supporting, and acquiring organizations assist in the planning and execution of the verification effort.

Upon Pre-publication, the TO is forwarded for printing, distribution and use as a formal TO.

2.3.2.2.1.3 Air Force - Develop TOs (A23).

TOs are developed by either government or contractor activities to meet Air Force requirements. TOs are written using existing technical data and TO reference documents (reference Figure 2-63, Develop TOs). Commercial manuals, if approved by the Government, may be supplied and supplemented as needed, in lieu of the development of new TOs.

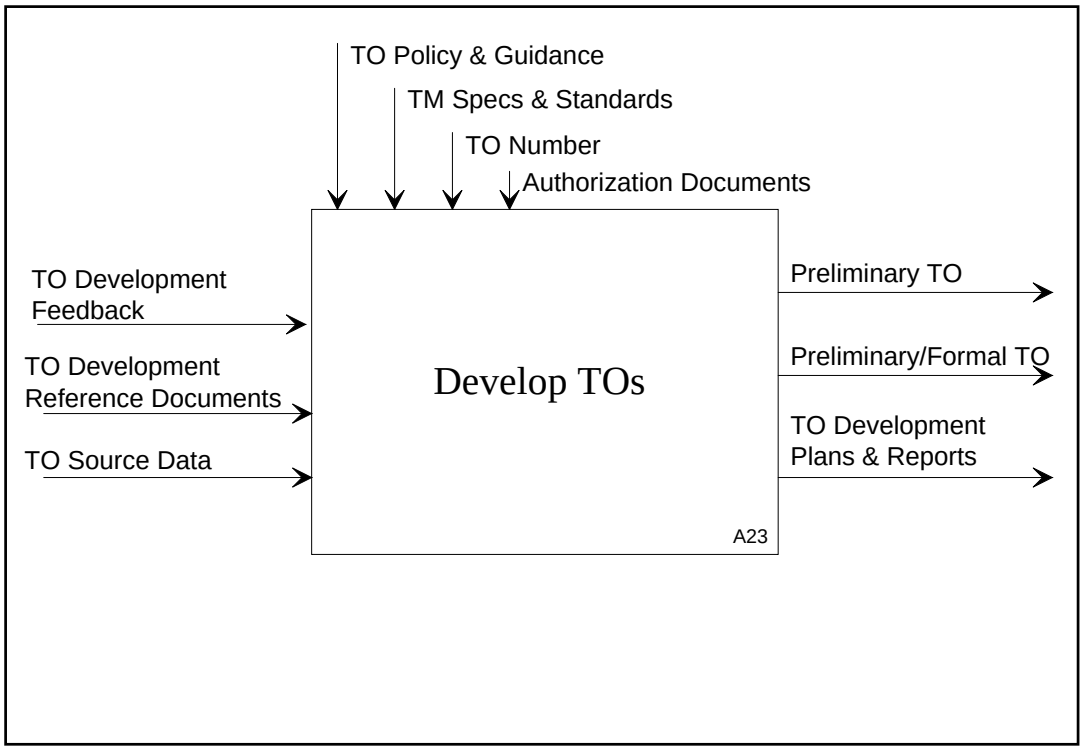

Figure 2-63, Develop TOs

TOs will be validated by the contractor to provide the user with technically accurate and readily understandable information. The developers will perform a reading grade level computation on a representative sample of the TOs being acquired. Validation is performed according to the developer prepared and government approved Validation Plan and is witnessed by a government agency. Validated TOs are submitted to the government for verification.

The developer submits PTOs, plans, reports and schedules to the acquiring agency for review, approval/disapproval or comments, as required by the contract.

2.3.2.2.2 Current Air Force Organizations and Personnel Responsibilities.

The following is a list of key responsibilities for each command to support these functions:

1. The Acquiring Command (normally AFSC or AFLC):

(a) Ensures that the SPO/PMO initiates an adequate program to acquire TOs.

(b) Ensures that adequate guidance is provided to the contractor.

(c) Ensures that contractor validations are witnessed by appropriate Air Force representatives.

(d) Ensures a thorough verification program.

(e) Ensures adequate administration of contractual acceptance and inspection of reproducible media for TOs acquired.

(f) Makes special arrangements to provide HQ ATC with PTOS.

(g) Schedules delivery to ensure TOs are available at using activities before or concurrent with delivery of applicable system or equipment.

(h) Ensures mutually established dates are included in PMRT agreements.

(i) Develops and maintains currency of TO inputs to all system documentation.

(j) Coordinates with the proper AFLC activity to ensure that TOs are compatible with tapes and computer programs used in the maintenance and operation of systems or equipment.

(k) Provides OT&E management agencies and commands with validated TOs to be used during OT&E.

(l) Establishes controls to ensure TOs are reviewed and properly released to foreign governments, international organizations and Air Force contractors, in accordance with applicable restrictions.

(m) Ensures that plans for funding and availability of support equipment, specified tools, and spare parts for verification efforts are developed and processed.

(n) Budgets, funds and acquires all TO material and printing for system, equipment items and support equipment being acquired.

(o) Although formal documents directing the acquiring command SPO/PMO are not available but under development, the SPO/PMO must notify the Navy through Det 63, 3100 SMSQ of any

ordinance (weapon system) development and supply data on that development IAW DID DI-SAFT-80931 so that 60-Series Joint Service Non-Nuclear EOD TMs can be produced in a timely manner.

2. AFLC:

(a) Develops, coordinates and maintains currency of TO documentation and participates in the preparation of RFPs and SOWS.

(b) Determines and furnishes the acquiring command with coordinated AFLC requirements for TOs pertaining to systems and equipment being acquired for AFLC management.

(c) Coordinates requirements with the acquiring, operating and maintaining commands to include TO format and content specifications to be used.

(d) Budgets, funds and acquires all TO material and printing for systems, equipment items and support equipment not undergoing acquisition or having been formally transferred to AFLC.

(e) Coordinates PMRT agreements with the acquiring command and determines date of acceptance of responsibility.

(f) Participates in DoD directed programs to develop joint procedures for military departments.

(g) Prepares and coordinates Methods and Procedures TOs with using commands.

(h) Furnishes necessary assistance for government reviews and verification of TOs.

3. ATC:

Assists the implementing command with TO acquisition, as required by the TMMP.

4. AFOTEC:

(a) Assists the MAJCOMs during TO verification.

(b) Identifies and reports TO deficiencies according to the approved OT&E plan.

(c) Assumes the lead in the development of TO evaluation criteria and procedures for Air Force wide OT&E application based on using command input.

5. Other MAJCOMs and Separate Operating Agencies:

(a) Assists the acquiring command in determining the scope of technical material to be included in TOs, and overall needs of the user.

(b) Assists the acquiring command in determining requirements for TOs.

(c) Provides personnel to support TO development and to function as representatives of the parent command with on-site decisions and sign-off authority.

(d) Ensures weapon systems and associated equipment, support equipment, tools, facilities, consumables and personnel are made available for TO verification.

2.3.2.2.3 Air Force Equipment.

a. Standard office automation systems.

b. G022 equipment.

2.3.2.2.4 Air Force Deficiencies.

a. The current system can not manage the acquisition of or acquire digital TO data for use.

b. The system is extremely slow to be able to number any data.

c. Inaccurate or outdated specifications are placed on contract.

d. Budget information or cost history is non-existent.

e. Integrated schedules for data/equipment is unavailable.

f. Difficulty in inter-service manual use/identification.

g. System unable to identify properly that data is preliminary.

2.3.2.3 Improve TOs (A3).

2.3.2.3.1 Air Force Description.

TOs, because of errors, problems, improvements and system/equipment modifications, are updated/changed during their life cycle. Perceived deficiencies and recommended changes are

documented and submitted for review, evaluation and incorporation of approved changes. Evaluation, consisting of policy and procedure reviews or engineering/technical analyses, may result in either change request disapproval or generation of an official TO update. Updates may take the form of formal TO changes or revisions, Technical Order Page Supplements (TOPS), and/or interim or formal operational or safety supplements. In addition,
PTOs may be updated by Interim or Formal TO Field Change Notices (ITOFCNs/TOFCNs). Identification of problems, improvements, and deficiencies with TOs occurs through:

a. User submission of recommended changes.

b. Review of system/equipment/software changes Engineering Change Proposals (ECPS) and/or TCTOs which require modification (companion changes) to TOs;

c. Management identification of excessive TO recommended changes being submitted;

d. Periodic TO reviews;

e. Procurement of replacement parts or support equipment; or

f. Changes in operational requirements or maintenance concepts.

Improve TOs, as shown in Figure 2-64, depicts the management of TO updates through initiation and identification of recommended changes, tracking and administrative review of the requests, evaluation of problems and suggested corrective actions, and issuance of official TO updates.

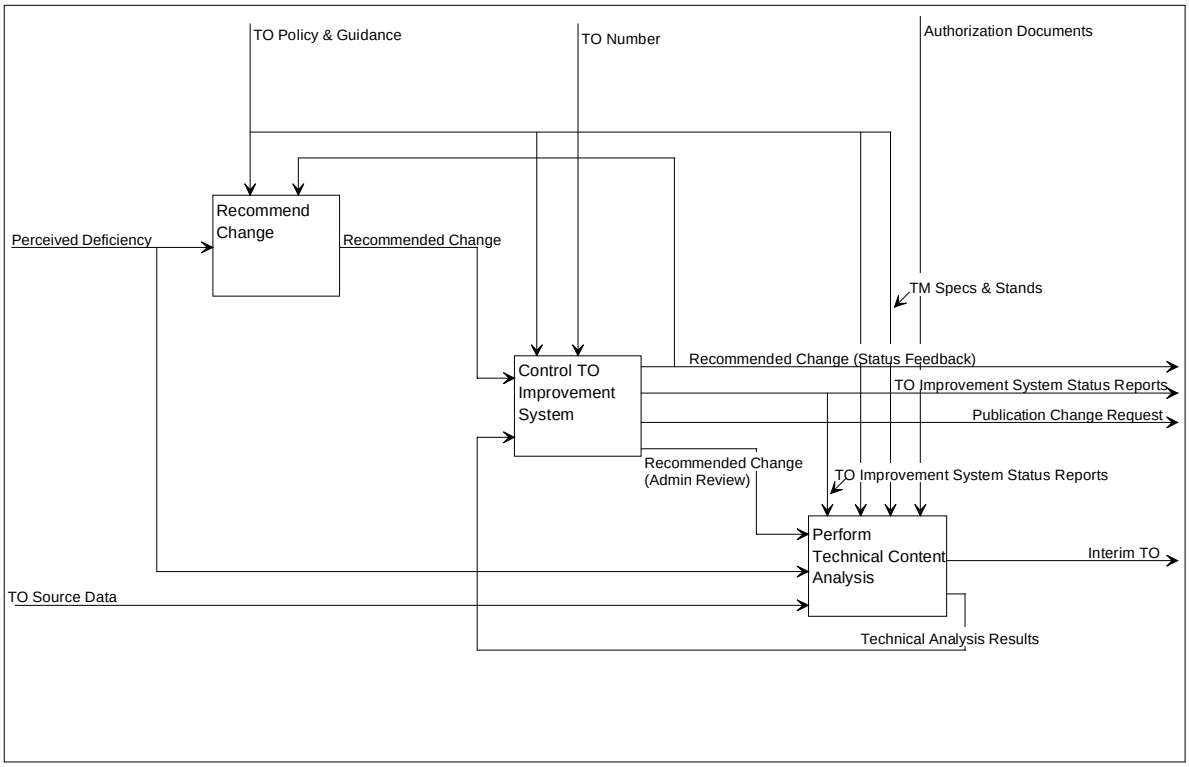

Figure 2-64, Improve TOs

2.3.2.3.1.1 Air Force - Recommend Change (A31).

The change recommendation process, as reflected in Figure 2-65, Recommend Change, allows the TO users or reviewer to identify problems and improvements that affect updating of TOs. Any condition or perceived deficiency which requires a change to the technical content of a TO is submitted by a recommended change request through established channels. These recommended changes may clarify data, correct data, or improve procedures, and may include one or more attachments (hand-written narrative, drawings, copies, or photographs) to identify or clarify the discrepancy. Typographical errors, grammatical and format problems, etc., are identified by letter, message or verbally to the TO manager or TO content manager.

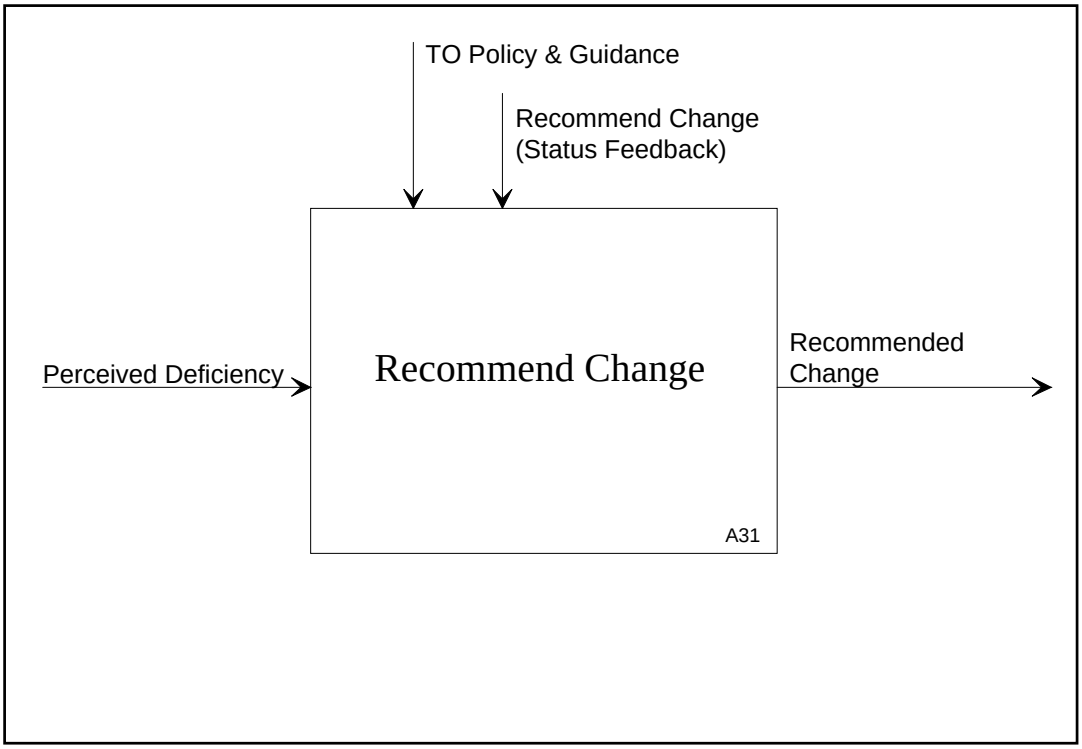

Figure 2-65, Recommend Change

TO changes may also result from modifications (ECPs or TCTOs), changes in component improvements, changes in policy or procedures, changes in operational requirements or changes to the maintenance concept.

Improvement reports are classified as Emergency, Urgent, or Routine.

Emergency reports are submitted immediately following discovery of the condition; urgent reports are submitted on an expedited basis, routine reports are submitted as soon as practical.

a. Emergency reports require immediate action on a TO deficiency which, if not connected, WOULD result in fatal or serious injury to personnel, extensive damage or destruction to equipment or property, or inability to achieve or maintain operational posture (MISSION ESSENTIAL), including field-level work stoppage.

b. Urgent reports require action on a TO deficiency involving a hazardous condition which, if not connected, COULD result in personal injury, damage of equipment or property, reduce operational efficiency, or jeopardize the safety or success of mission accomplishment.

c. Routine reports require action on TO deficiencies which do not fall into one of the above categories.

2.3.2.3.1.2 Air Force - Control TO Improvement System (A32).

The TO improvement system, as shown in Figure 2-66, Control TO Improvement System, is managed to identify TO deficiencies, control and evaluate recommended changes, and ensure timely and accurate publishing of resulting TO updates. This is accomplished through the user improvement reporting system, periodic TO reviews, review and evaluation of recommended changes, monitoring recommended change request progress, and the suspensing of system management actions. The more serious the TO deficiency, the higher the category of the recommended change and the shorter the response time required. Changes and response times are reflected in Figure 2-67, Changes and Response Times.

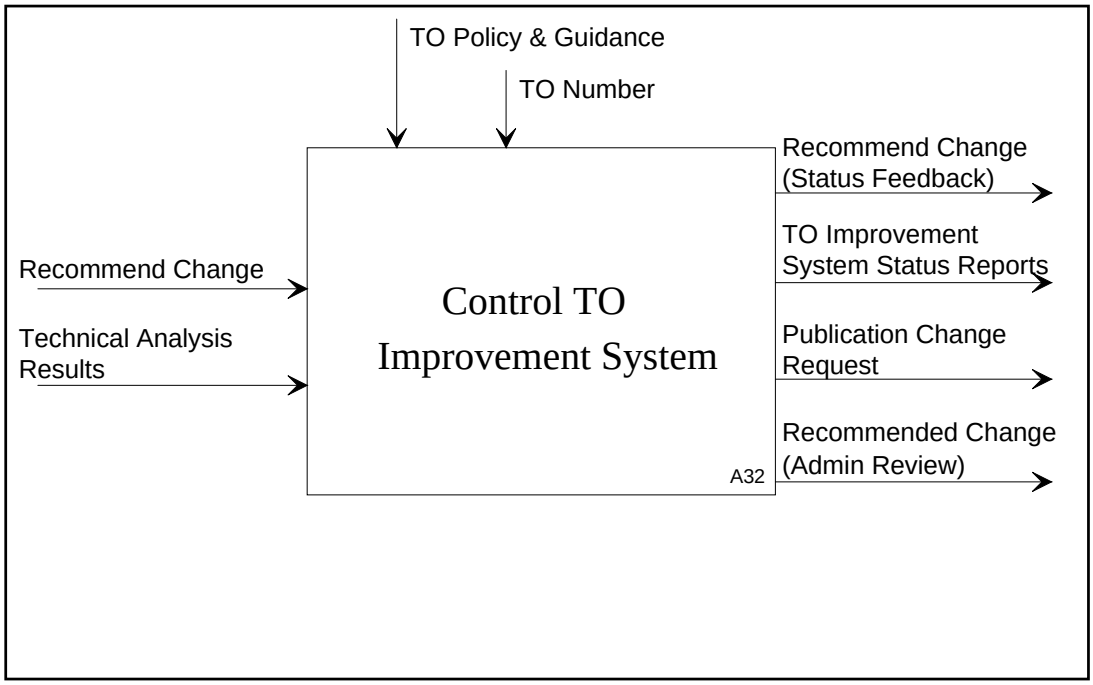

Figure 2-66, Control TO Improvement System

Emergency Reports	Reply within 48 hours with an ITCTO, Interim Safety or Operational Supplement or disapprove or downgrade. For ALC initiated work stoppage reports on TOs covering equipment still in acquisition, AFSC issues an ITCTO, Interim Safety or Operational Supplement, within 72 hours
Urgent Reports	TO change, revision or supplement published and distributed, or disapproved or downgraded within 40 calendar days. Using activities must allow for mail and distribution time for approved reports.
Routine Reports	Reply within 45 calendar days after receipt by the activity having engineering responsibility. Publish approved changes within 210 calendar days after receipt by the responsibility activity.
Nonconforming Material Report (AFLC Depot Only)	Under work stoppage conditions, the technical content manager provides a Special Handling AFLC Form 252 or on-time instructions on AFLC Form 103 within 5 work days. Under non-work stoppage conditions the solution is provided within 15 work days.

Figure 2-67, Changes and Response Times

Recommended changes are generated by individuals, and reviewed by supervisors, Quality Assurance organizations, and MAJCOMs for validity, duplication, and proper assignment of priority (category) prior to submittal to the responsible TO manager. The TO manager performs an administrative review and forwards the recommended change request to the technical content manager for evaluation, which may include engineering or contractor analysis, and approval. The recommended change may be disapproved at any level.

The TO manager maintains records in the G022 system, of recommended change request progress, status, and corrective actions, if any. Beside the obvious "approved" and "disapproved," status can include "abeyance" (deferred for management review), "advisement" (pending engineering evaluation), "being evaluated" (at the evaluation agency), "deferred" (approved, publication delayed), and more. Status of the recommended change request is made available to the change

request initiator. An approved recommended change request will result in a Publication Change Request (PCR) and the publishing of an official TO update, which will automatically be distributed to all users of the basic TO.

TO deficiencies and/or improvement reports on 60-Series Non-Nuclear EOD TOs are submitted by EOD personnel directly to their respective MAJCOM EOD Managers for quality assurance and validity. MAJCOM EOD Managers forward the reports directly to Detachment 63, 3100 SMSQ, who screens the reports for accuracy, duplication and joint service application before forwarding to the Navy for acceptance and project initiation. Tracking, control, status and final disposition of these reports is provided by Detachment 63, 3100 SMSQ, for the Air Force.

SA-ALC/SWPD receives recommended changes related to Air Force nuclear weapons technical manuals and Weapons Laboratory aircraft/nuclear weapon loading and delivery technical manuals. Changes are controlled in the SA-ALC/SWPD Technical Order Improvement Reporting System. Messages of changes are transmitted to Air Force users of Joint Nuclear Weapons Publication System (JNWPS) data.

Field Command Defense Nuclear Agency (FCDNA) manages and controls the JNWPS and JNWPS video tapes. Any action or question related to JNWPS should be referred to FCDNA, Attn: FCPSP, Kirtland AFB, NM 87115. The JNWPS is a system of technical manuals on nuclear weapons and associated material designed and produced by the Department of Energy (DOE); and related components designed and developed by DoD agencies; and such supplemental information or data determined appropriate by either the DOE or DoD in connection with the general field of nuclear weapons. The individual services put service numbers, e.g., TO 11N-1-1 on JNWPS Publications and will be listed in service indexes with that number even though they are Joint publications.

2.3.2.3.1.3 Air Force - Perform Technical Content Analysis (A33).

After initial administrative reviews, recommended change requests are sent to technical content managers or specially constituted review boards for a technical evaluation, if required, as reflected in Figure 2-68, Perform Technical Content Analysis. The technical evaluation may include engineering analysis by contractor personnel. The result of the evaluation may be disapproval, approval with modifications, or approval as written, and (for emergency and urgent requests) may include a recommendation to decrease the priority. Reviewing activities may not downgrade the priority of the recommended change report without the concurrence of the submitting MAJCOM headquarters.

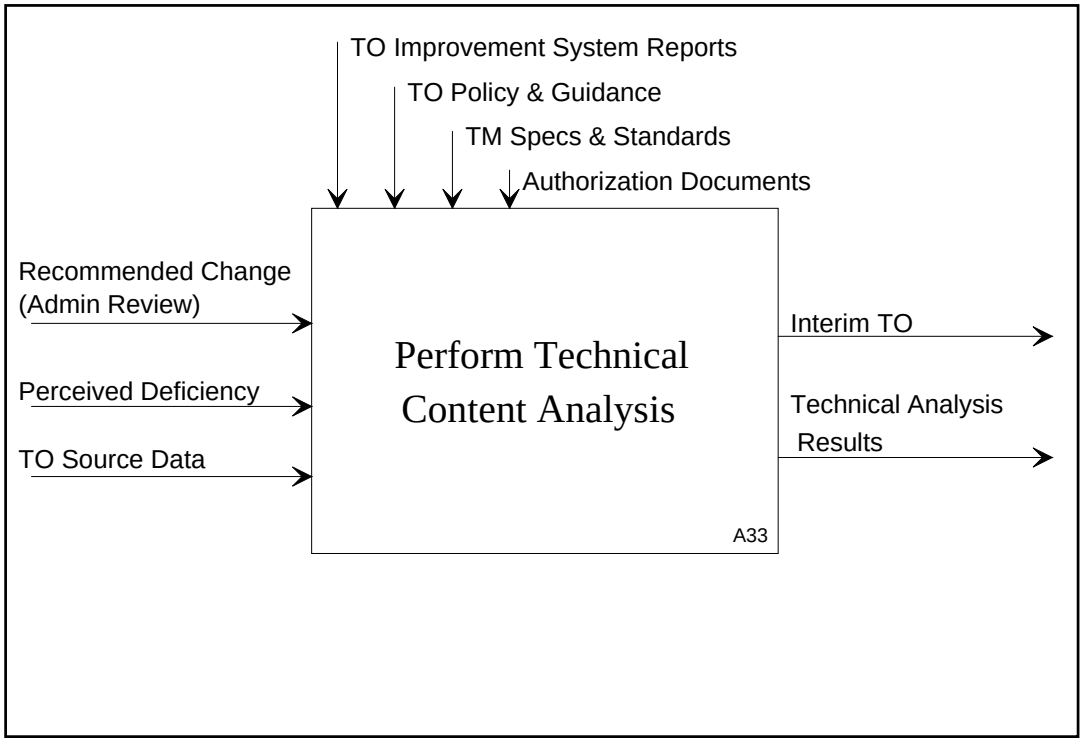

Figure 2-68, Perform Technical Content Analysis

When a technical content manager downgrades a report, message notification of the downgrade action and reasons must be provided the submitted and MAJCOM headquarters.

Any delay caused by the evaluation process must be reported to the initiator through the status reporting system. Delays include reviews by special management agencies, engineering analysis, contractor review, publishing delays, etc.

When the evaluation determines that the recommended change is valid, the corrective action is finalized, and an official TO update will be generated. For formal TOs managed by the ALCS, the technical content manager will initiate a PCR. In some cases, the technical content manager may determine that a discrepancy exists and may initiate the change process directly with a PCR. The PCR is submitted for the affected manual and publication of the official update. In other cases, the TO update will usually be prepared by a contractor under government direction.

All recommended changes will be evaluated for impact on other TOs. Where such impacts exist, "companion changes" or source data to update the affected TOs will be prepared.

2.3.2.3.2 Current Air Force Organizations and Personnel Responsibilities.

The following is a list of key responsibilities for each command:

1. AFSC/AFCC:

Provides replies to MAJCOM AFTO Form 22 and AFTO Form 27 when AFSC or AFCC is responsible.

2. AFLC:

Operates and maintains a TO improvement reporting system for designated TOs.

3. Other MAJCOMs and Separate Operating Agencies:

(a) Evaluates/submits recommended changes to the TO system.

(b) Reviews change proposals submitted by subordinate units for validity, duplication, and priority.

2.3.2.3.3 Air Force Equipment.

a. G022 Equipment.

b. AFCC Automated AFTO Form 22 System (H6000).

c. Standard office automation systems.

2.3.2.3.4 Air Force Deficiencies.

a. TO update process is very time consuming and labor intensive.

b. Some routine changes are not incorporated into the TOs they affect.

c. Sometimes the managers for an affected TO and the TO being changed are different and the need for those companion changes may be overlooked.

2.3.2.4 Publish TOs (A4).

2.3.2.4.1 Air Force Description.

Publication of TOs is accomplished through the acquisition and improvement process. The AFSC/SPO, AFLC/PMO/SPM or Item Manager establish the publication requirements and procure the Government Printing Office (GPO) support required to reproduce the TOs.

Preliminary/Formal TOs, TO Index Updates and changes to publications are prepared as a Reproducible Master and incorporated into a reproduction package. The publisher reproduces the TOs as prescribed by the directions received in the reproduction package. Published TOs are distributed to the assigned storage facility (Stock TOs) or distributed as Initial Distribution. When the reproduction is completed, the Reproducible Master is returned to the responsible AFSC or AFLC organization for configuration management control (reference Figure 2-69, Publish TOs).

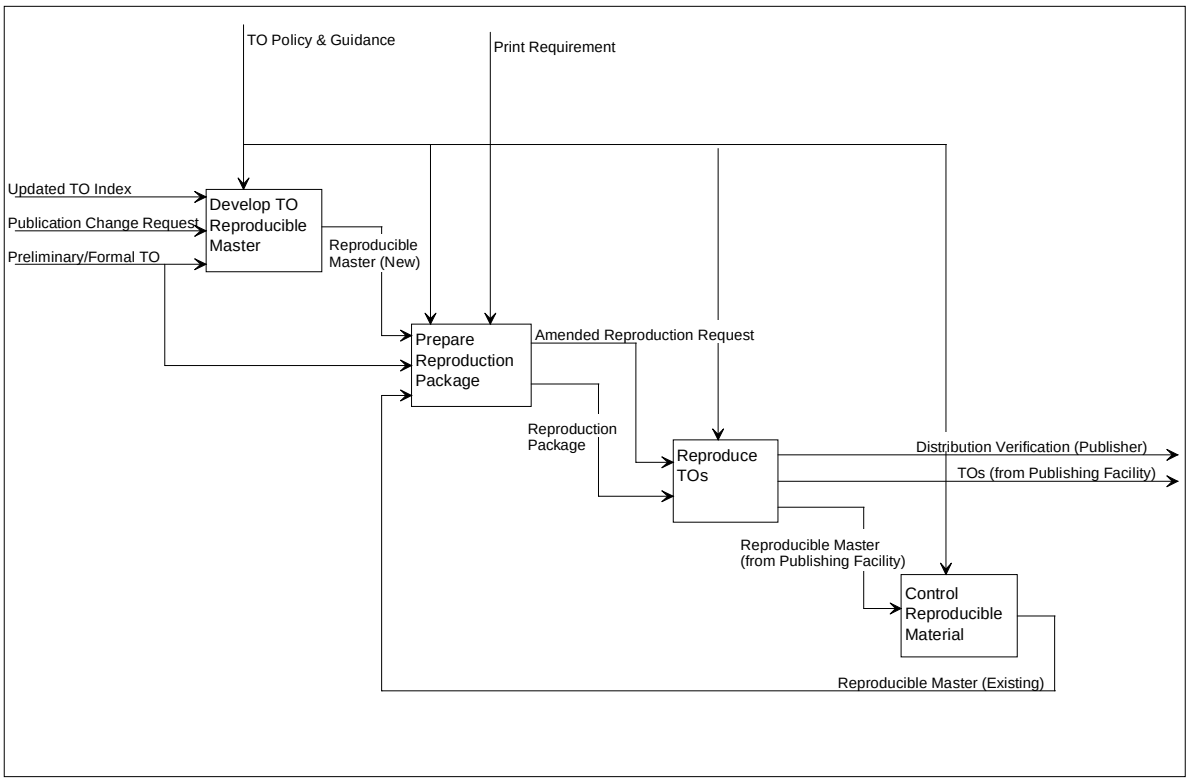

Figure 2-69, Publish TOs

2.3.2.4.1.1 Air Force - Develop TO Reproducible Master (A41).

Data received for publication (Updated TO Index, Preliminary/Formal TOs, Publication Change Request) is formatted into a reproducible master. The reproducible master may consist of a camera-ready copy or negatives and digital media. The reproducible master will receive a publication review for format, punctuation, and editorial correctness. Once approved, it will be incorporated into a reproduction package (reference Figure 2-70, Develop TO Reproducible Master).

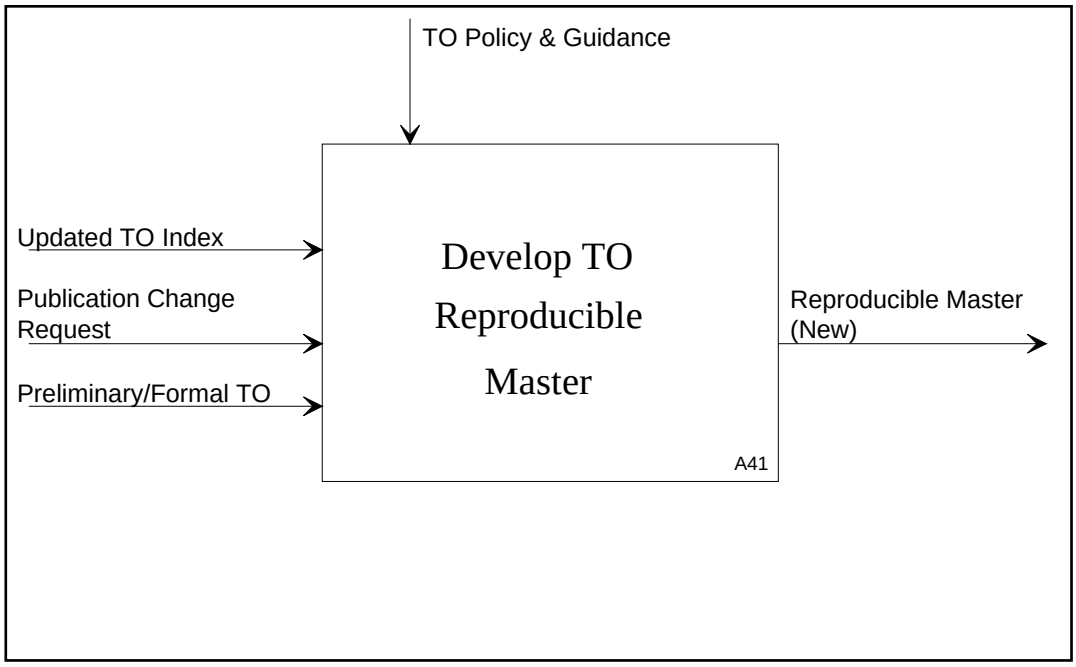

Figure 2-70, Develop TO Reproducible Master

2.3.2.4.1.2 Air Force - Prepare Reproduction Package (A42).

For Prepare Reproduction Package, as shown in Figure 2-71, the contractor or ALC must prepare a reproduction package Reproduction Assembly Sheet, a Requisition for Printing and Binding Services and a TO/CPIN Distribution and Record Request Contractor prepared TOs are inspected and accepted by a government Quality Assurance (QA) activity and sent to the GPO. ALC prepared reproduction packages are submitted to the ALC Information Management for in-house or GPO reproduction. The prime ALC provides the G022 prepared distribution labels for

inclusion in a reproduction package processed to the GPO by the acquisition activity. For most ALC-managed TOs, the labels are provided to a contractor-operated initial distribution activity for use when the bulk printing stock is received from the GPO or in-house printing facility.

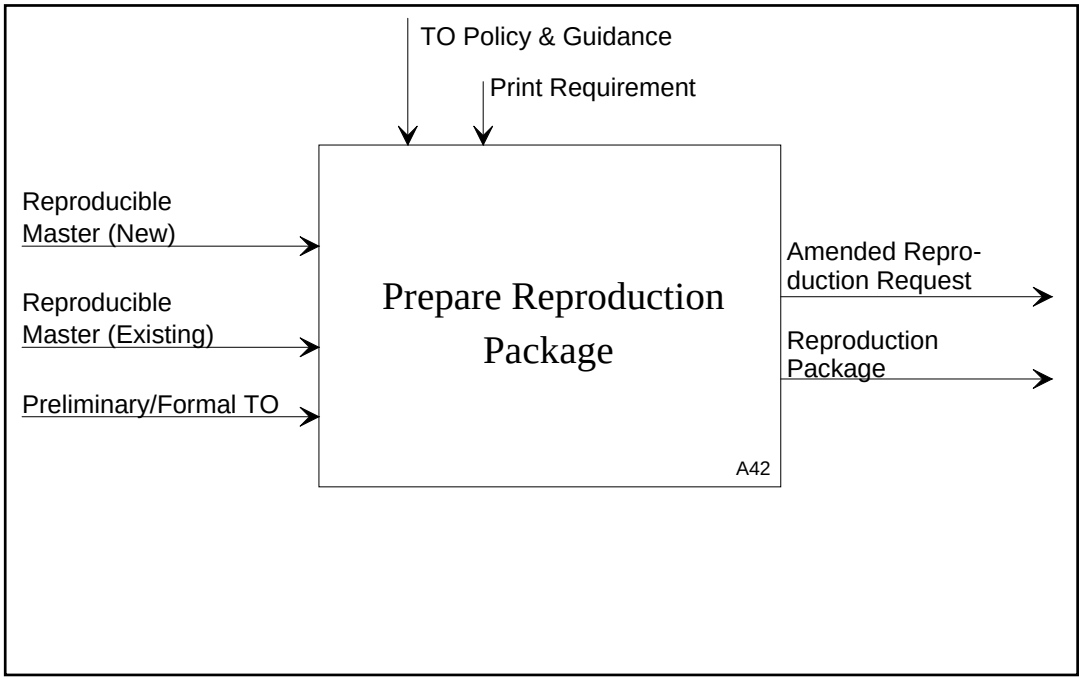

Figure 2-71 Prepare Reproduction Package

2.3.2.4.1.3 Air Force - Reproduce TOs (A43).

TOs are reproduced by the Government or by a GPO contractor as reflected in Figure 2-72, Reproduce TOs, in sufficient quantity to meet Air Force requirements [including the Security Assistance Program (SAP)]. The reproduction facility accomplishes reproduction and, if required, performs distribution and provides distribution verification. The reproduction facility ships the TO to the responsible government agency who, if not already accomplished, performs distribution. TOs in excess of distribution requirements are stocked in the prime ALCs warehouse. Reproducible masters are sent to the Govemment for storage and control or back to the preparation contractor for contractor maintained TOs.

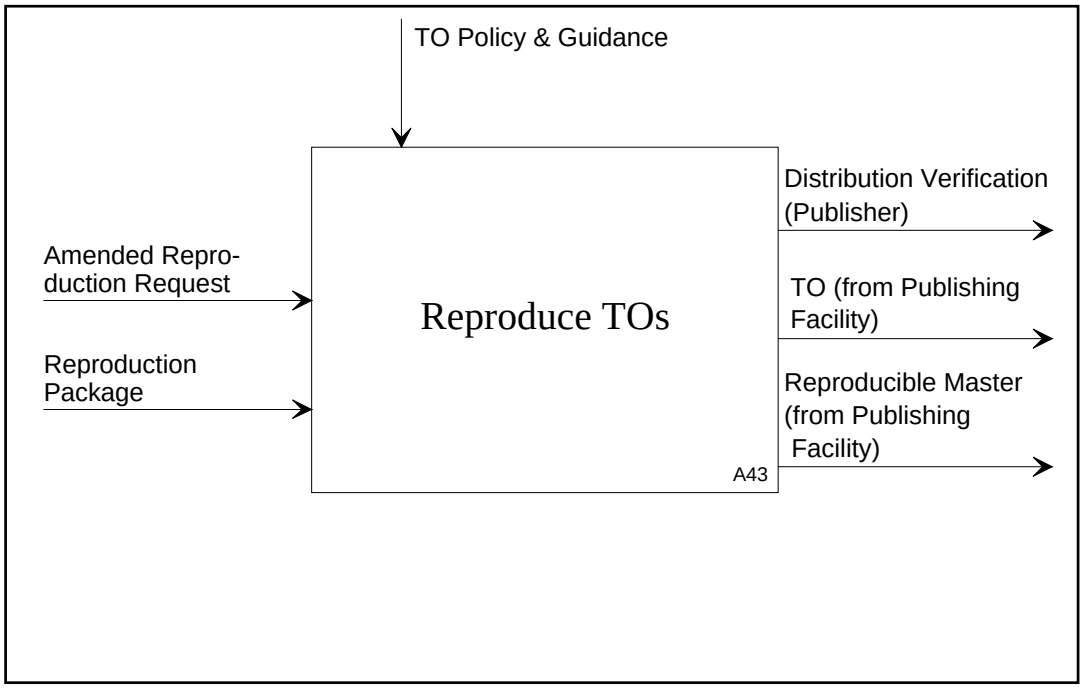

Figure 2-72, Reproduce TOs

2.3.2.4.1.4 Air Force - Control Reproducible Material (A44).

Reproducible material, as reflected in Figure 2-73, Control Reproducible Material, is stored by the responsible agency. Negatives, artwork and reproducible copy are stored by TO number and in a manner to avoid damage to the material. Classified material is stored according to AFR 205-1.

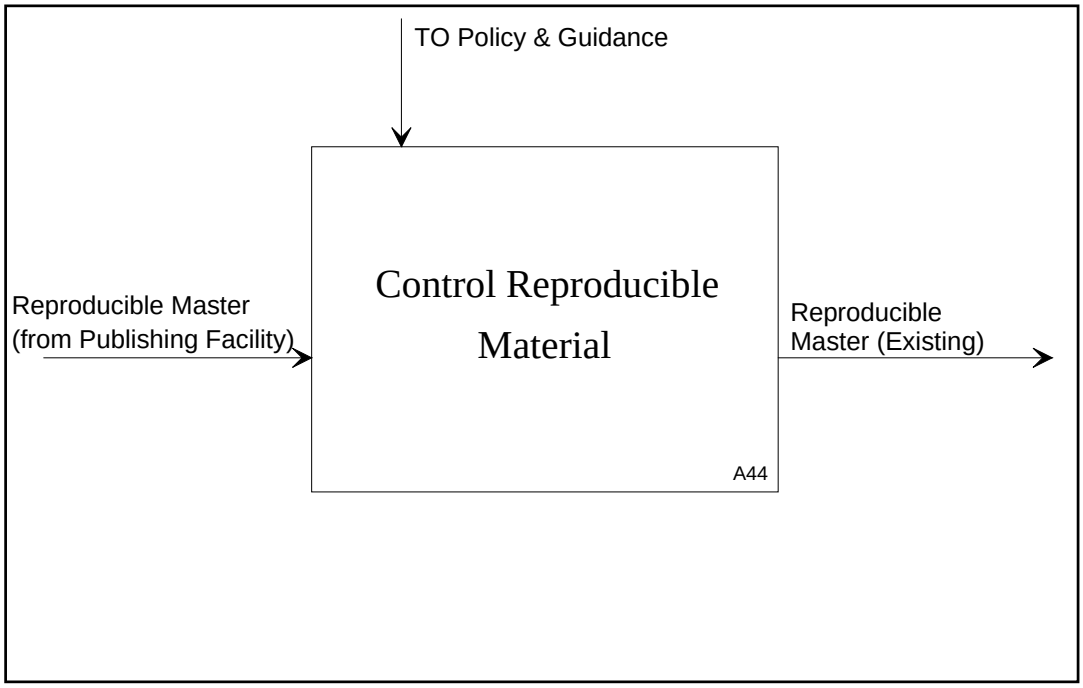

Figure 2-73, Control Reproducible Material

A reproduction copy/negative control file is maintained for the reproducible material being stored and a record is maintained for each TO. The record is filed by TO number and shows the physical location of the reproducible material. When reproducible material is shipped to an Air Force activity or government contract facility, the date of shipment and name of recipient are entered into the record. When reproducible material is removed from storage, the name and office symbol code of the recipient are entered. When reproducible material is returned for storage, it is checked for completeness, location information is updated, and the material is placed in its designated location.

2.3.2.4.2 Current Air Force Organizations and Personnel Responsibilities.

The following is a list of key responsibilities for each command:

AFSC/AFCC/AFLC:

(a) Complies with publishing and printing policies and

prepares and prints TOs.

(b) Determines the number of copies of TOs to be printed and acquired to satisfy known distribution demands.

2.3.2.4.3 Air Force Equipment.

a. G022 equipment.

b. Standard office automation systems.

c. ATOS equipment

2.3.2.4.4 Air Force Deficiencies.

a. Delays exist between preparation of reproducible copy and distribution of TOs to users.

b. There are delays and difficulties in identifying and correcting reproduction errors.

2.3.2.5 Stock TOs (A5).

2.3.2.5.1 Air Force Description.

AFLC ensures TOs are stocked in quantities necessary to meet Air Force requirements (reference Figure 2-74, Stock TOs). Acquisition agencies will stock PTOs for distribution as necessary prior to formalization.

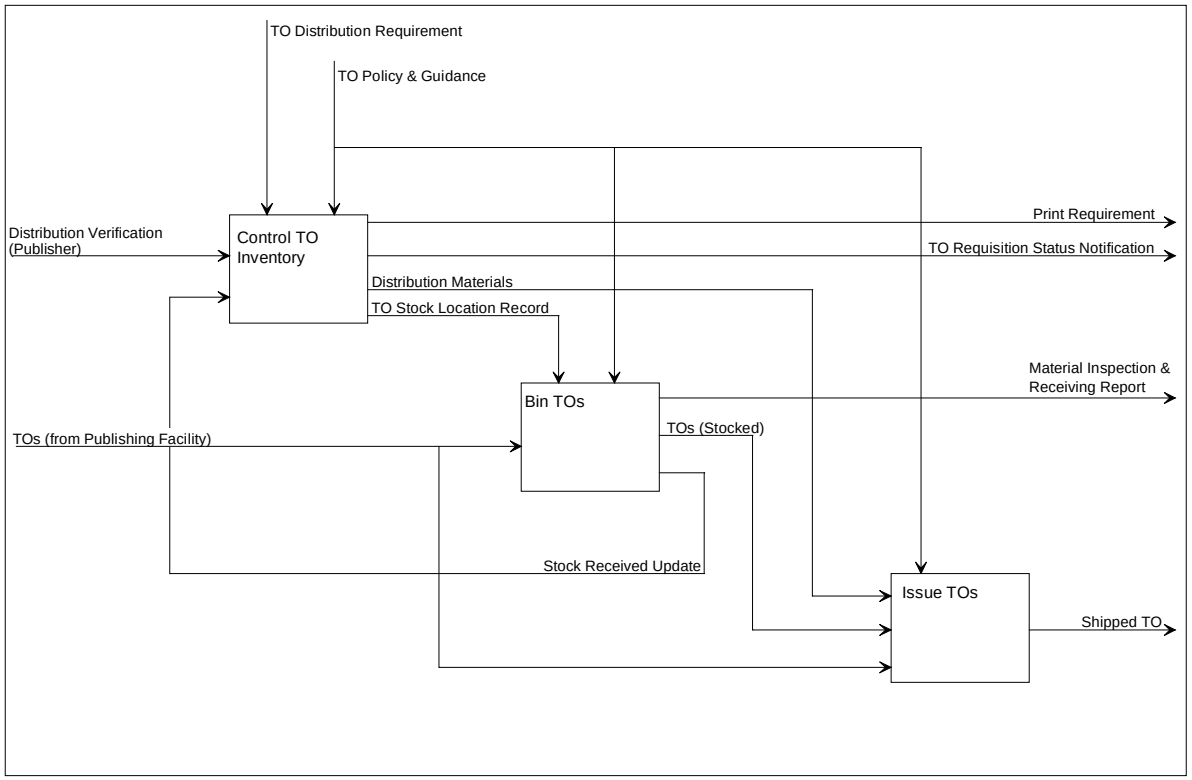

Figure 2-74, Stock TOs

2.3.2.5.1.1 Air Force - Control TO Inventory (A51).

The TO inventory is controlled by monitoring the requirements established for TOs and ensuring the volume of technical data is adequate to meet known requirements (reference Figure 2-75, Control TO Inventory).

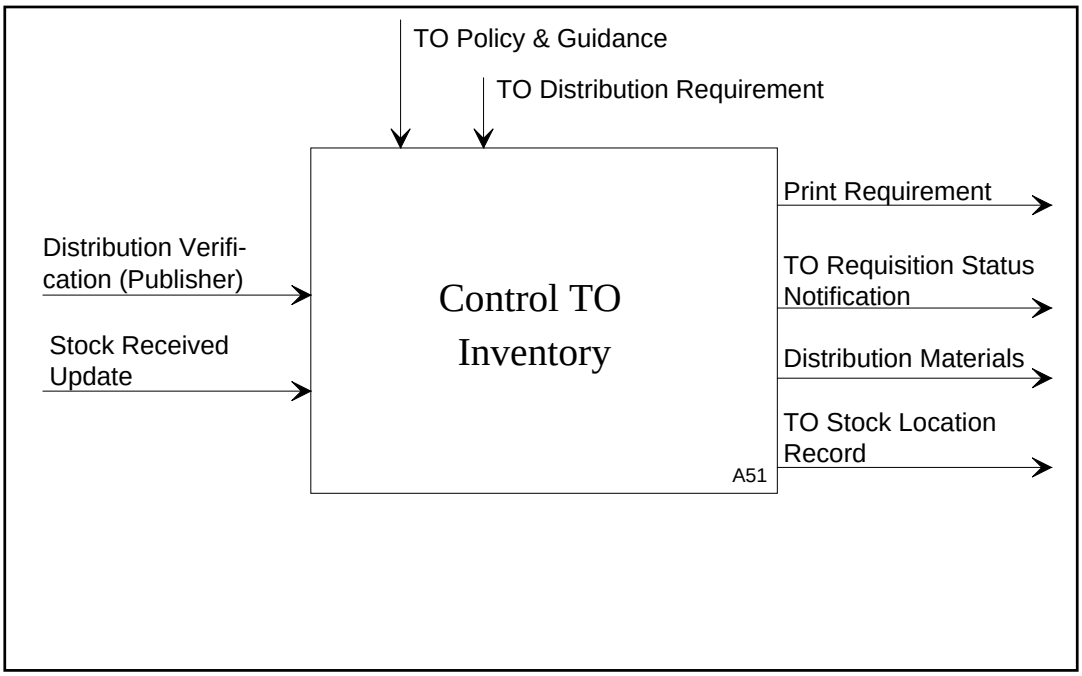

Figure 2-75, Control TO Inventory

There is no G022 data element for "stock level." The TO manager is responsible for establishing a "minimum reserve level" and a "reprint level." Backorder notifications are issued before the system indicates a TO is out of stock. They are issued when the first demand is received which would take the stock balance below the minimum reserve level plus the reporting level. That demand is placed on backorder and a reprint notice is issued. The TODCA determines whether to leave that requirement on backorder or use the minimum reserve level to satisfy the demand. When backorders accumulate, to a point where their total quantity would deplete the quantity being reprinted, a supplemental reporting notice is issued to notify the TODCA to amend the reprint order.

2.3.2.5.1.2 Air Force - Bin TOs (A52).

Copies of TOs received from a reproduction facility are assigned a location, as shown in Figure 2-76, Bin TOs, in the warehouse (if one is not already assigned) and physically placed in bins. Large quantities are also stored in bulk storage locations. This backup stock is used to fill requisitions received after initial distribution is completed. If the TOs were received from a commercial facility, a Material Inspection

and Receiving Report (DD Form 250) is completed (when required) and sent to the procurement office.

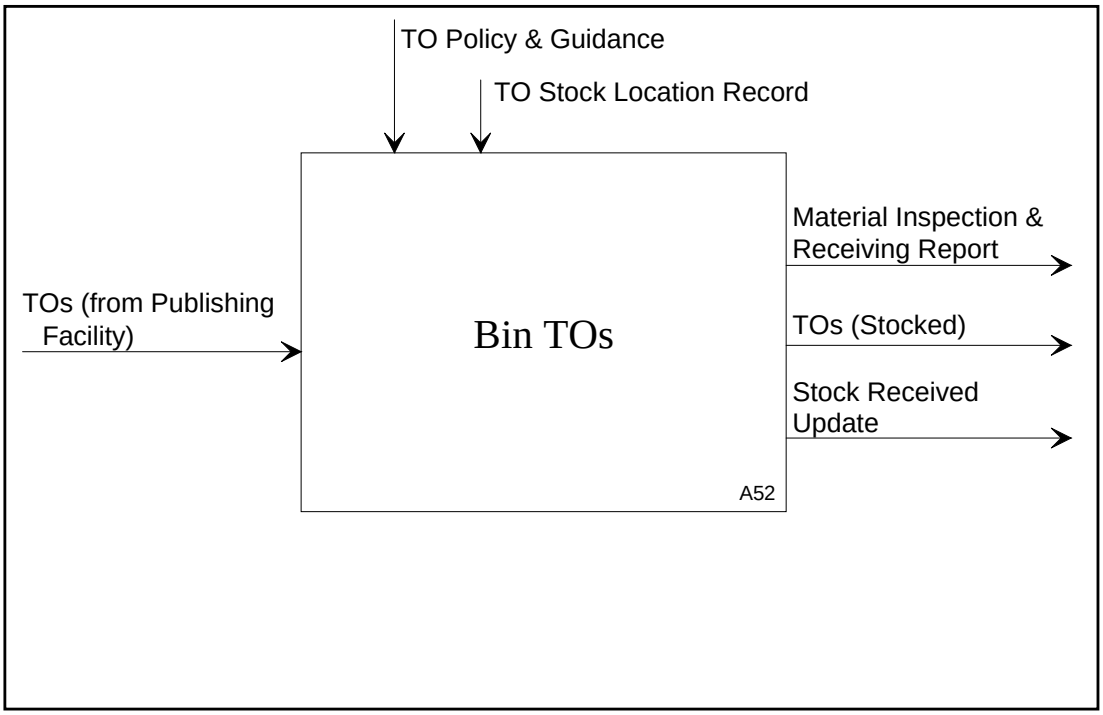

Figure 2-76, Bin TOs

A Stock Received Update notice is completed and sent to the TO Distribution Control Specialist. Special Weapon TO managers annotate Air Force Form 105F-2, Stock Record Card.

Acquisition agencies must arrange for the storage and back-up stocks of PTOS.

When a TO is replaced or rescinded, G022 generates a delete notice. Upon receipt of the delete notice, the TO warehouse sends the no longer required copies to salvage, assuring destruction in accordance with Air Force regulations.

2.3.2.5.1.3 Air Force - Issue TOs (A53).

When distribution materials are received, the TOs are pulled from their assigned location and issued against established requirements as shown in Figure 2-77, Issue TOs. The pulled TOs are put into shipping containers (envelopes or boxes), affixed

with appropriate postage based on weight and destination, consolidated, and shipped.

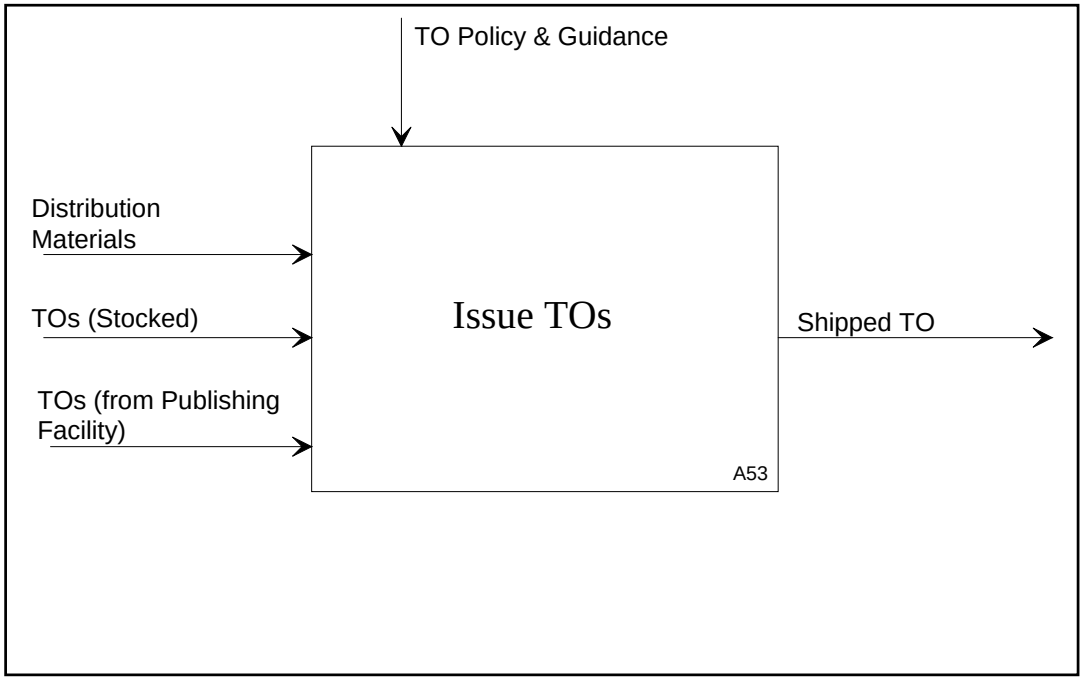

Figure 2-77, Issue TOs

2.3.2.5.2 Current Air Force Organizations and Personnel Responsibilities.

The following is a list of key responsibilities for each command:

1. AFLC:

   Receives, stores and issues TOs.

2. AFSC/AFCC:

   Receives, stores and issues PTOS.

2.3.2.5.3 Air Force Equipment.

G022 Equipment.

2.3.2.5.4 Air Force Deficiencies.

a. AFLC requires excessive storage space for TOs.

b. Mislocation of TOs leads to invalid inventories.

c. TO changes in most cases are not stored with basic TO which causes distribution problems.

d. Storage facilities do not always have adequate environmental protection.

e. Inadequate storage causes loss of quality of the master reference copy for some TOs.

f. Insufficient manpower exists for storage of TOs.

g. Acquisition agencies must pay contractors to store PTOS.

2.3.2.6 Distribute TOs (A6).

2.3.2.6.1 Air Force Description.

AFLC receives, stores, and issues TOs for which it has assumed responsibility through PMRT. Prior to PMRT, the acquiring agency manages the control, development, printing, and distribution of the PTOs and the Initial Distribution of the. formal TOs. After PMRT, AFLC controls the publication, distribution, and cost of TOs and maintains historical information, including cost (reference Figure 2-78, Distribute TOs).

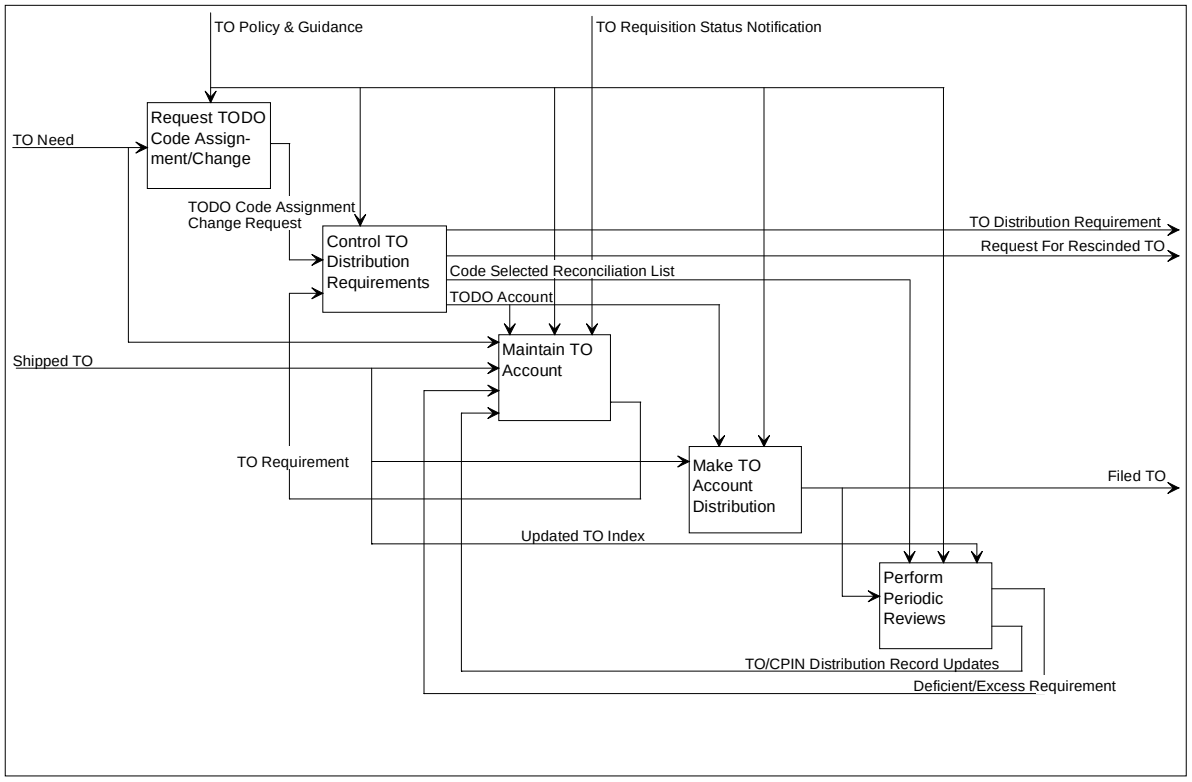

Figure 2-78, Distribute TOs

The TODOs generate Initial Distribution requirements before the initial publication of the TO. The TODOS, using the TO Indexes, input their Initial Distribution requirements. The Technical Order Distribution Control Activity (TODCA) sets and maintains appropriate management criteria and controls codes to document the peculiar characteristics, conditions and usage of each TO. Special Weapons TODO codes differ from G022 system TODO codes, and Special Weapons Initial Distribution requirements are not input into the G022 system.

Each assigned TO requires an assignment of a management review (screen) code to ensure proper release of TOs in accordance with their assigned distribution statement and security classification. The 60-Series Non-Nuclear EOD TODOs are outside of the G022 system and codes are requested by EOD personnel through their respective MAJCOM EOD Managers. MAJCOM EOD Managers forward the request directly to Detachment 63, 3100 SMSQ who approves/disapproves these TODOs and controls distribution of these manuals.

The following description of TODO functions is also

representative of functions performed by account managers being served by the TODO.

2.3.2.6.1.1 Air Force - Request TODO Code Assignment/Change (A61).

Agencies, both government and non-government without a TO distribution office, may generate requests for establishment of TODOs as reflected in Figure 2-79, Request TODO Code Assignment/Change. The request is submitted for the assignment of the TODO code. The same form used to request a TODO code may be used to change or cancel an existing code.

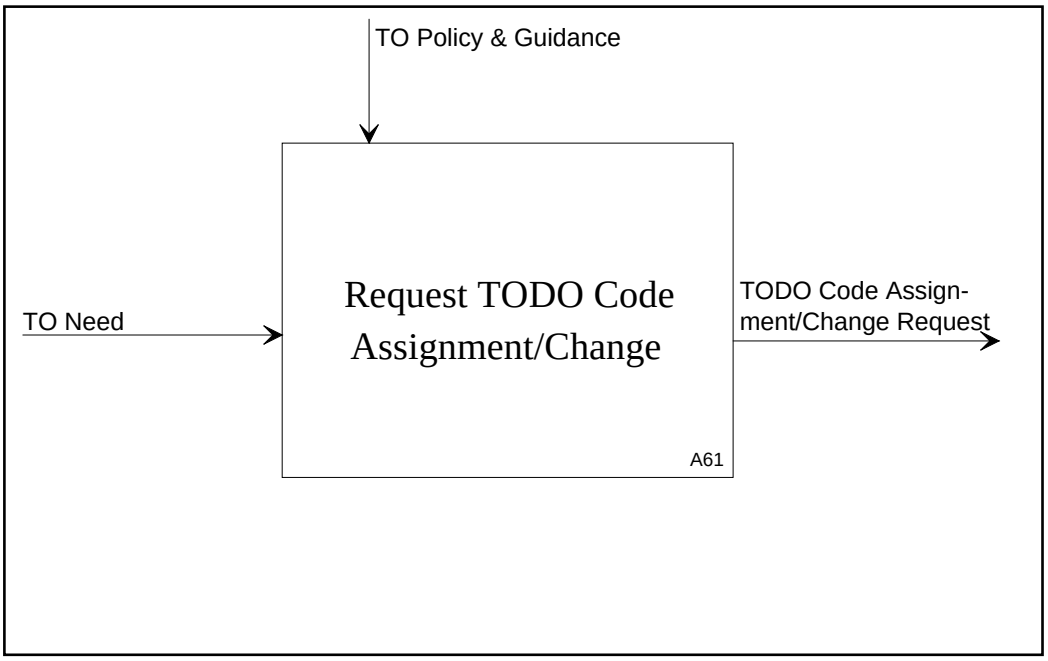

Figure 2-79, Request TODO Code Assignment/Change

2.3.2.6.1.2 Air Force - Control TO Distribution Requirements (A62).

Assignment of a TODO code allows users to submit TO requirements for review and approval as shown in Figure 2-80, Control TO Distribution Requirements. TOs with restrictive distribution statements are coded requiring approval before release. The TO manager maintains a listing of authorized accounts coordinating additions or changes with technical content managers (releasing authority). Only after approval are new requests added to the TO distribution requirements. The sum of all TO requirements is the TO distribution requirement for that TO. Requests for TOs are evaluated and approved or disapproved. The Code Selected Reconciliation List (CSRL) is reproduced on a cyclic basis and sent to the TODOs as an aid in maintaining their account.

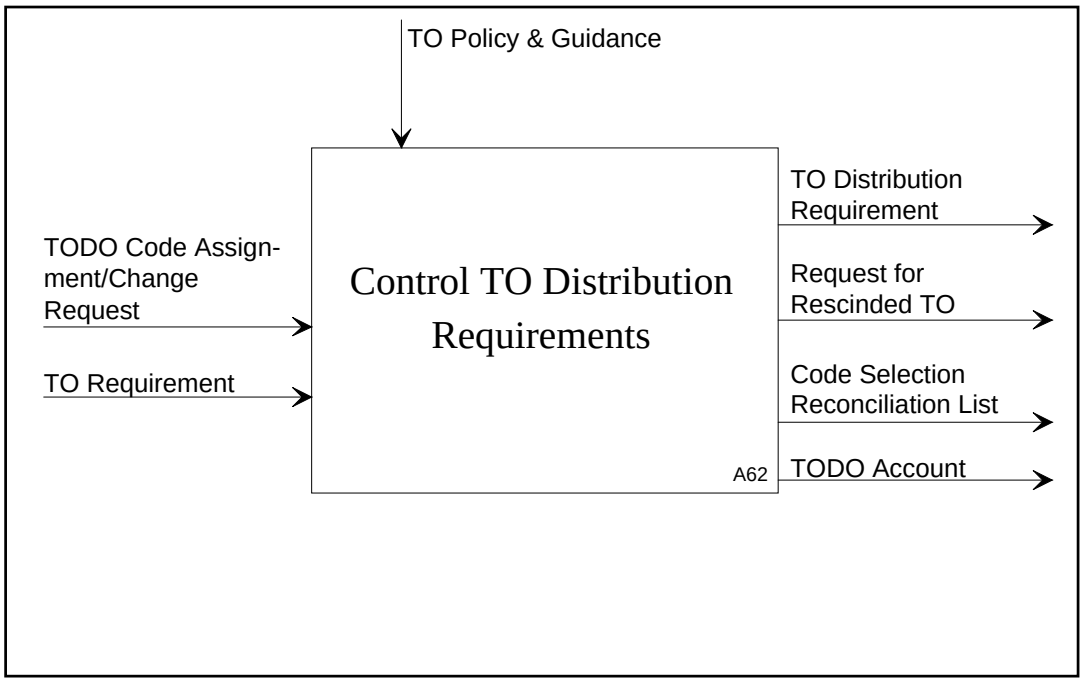

Figure 2-80, Control TO Distribution Requirements

Special Weapons classified FMS account requirements are validated and released by HQ USAF/CVAII. Distribution is then accomplished by SA-ALC/SWPD. The 60-Series Non-Nuclear EOD TODOs are outside the G022 system, releasable only to EOD personnel.

The 60-Series Non-Nuclear TOs are issued to Air Force personnel on a complete set basis, each set contains one copy of each TO listed for Air Force use in the 60-Series Non-Nuclear Index, therefore no CSRL is required for these TOs. FMS processing of requests for release of 60-Series Non-Nuclear TOs is the responsibility of the Navy.

2.3.2.6.1.3 Air Force - Maintain TO Account (A63).

When a TODO code is assigned, the TODO consolidates all requirements, certifies that TOs are required, and submits requirements to OC-ALC as shown in Figure 2-81, Maintain TO Account. The TODO ensures that a TO/CPIN Distribution Record is prepared and maintained for each TO that is required. Deficient/excess requirements discovered in the accounts are rectified by submitting the appropriate forms to increase/decrease distribution requirements. TO Backorder Notifications are filed and follow up action taken as appropriate.

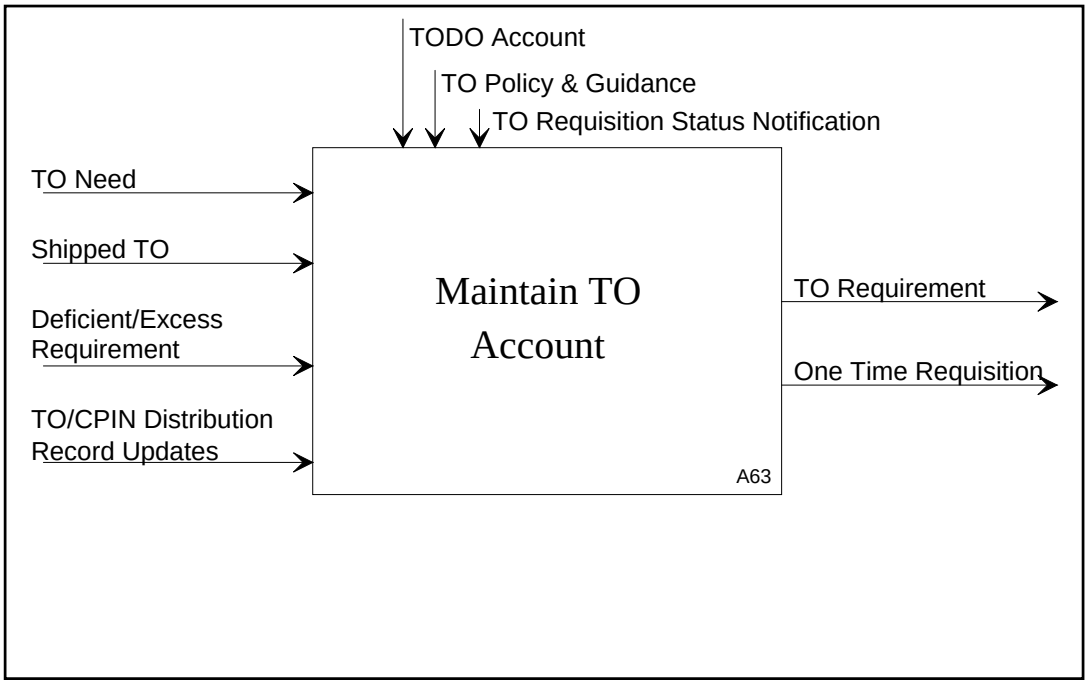

Figure 2-81, Maintain TO Account

2.3.2.6.1.4 Air Force - Make TO Account Distribution (A64).

The TODO receives the requisitioned TOs from the ALCs and makes distribution to its accounts and subaccounts (reference Figure 2-82, Make TO Account Distribution).

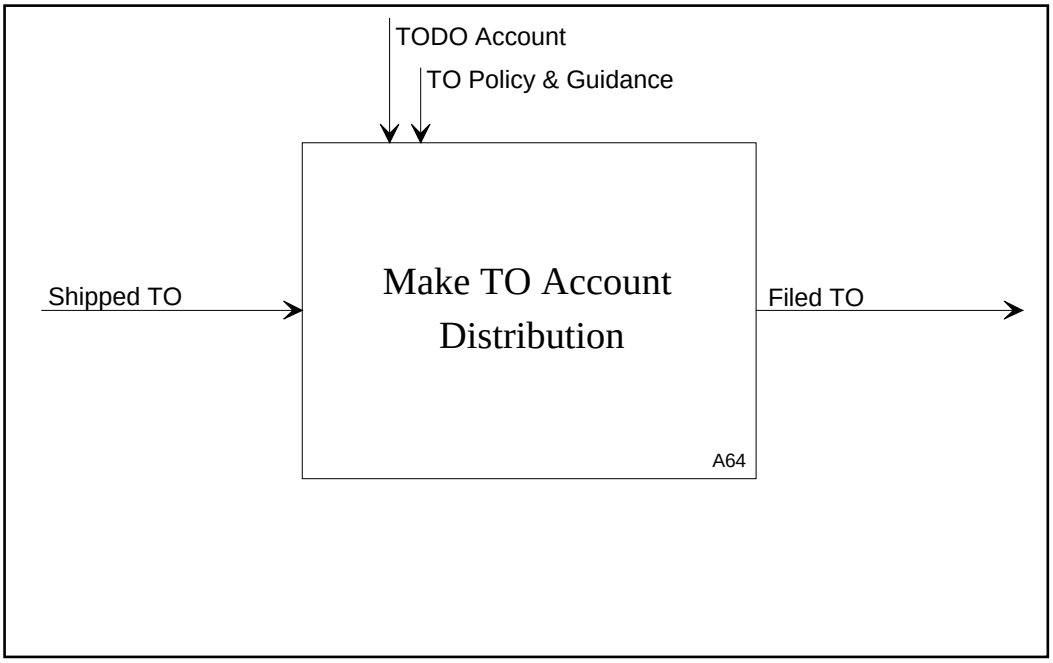

Figure 2-82, Make TO Account Distribution

2.3.2.6.1.5 Air Force - Perform Periodic Reviews (A65).

Periodic reviews, as shown in Figure 2-83, Perform Periodic Reviews, are conducted to ensure that filed TOs are correct and current and that distribution requirements are current. The CSRL may be used as cross-check during the review. Deficiencies or excesses in the account are noted on the TO/CPIN Distribution Record and appropriate action is taken to adjust the quantities received.

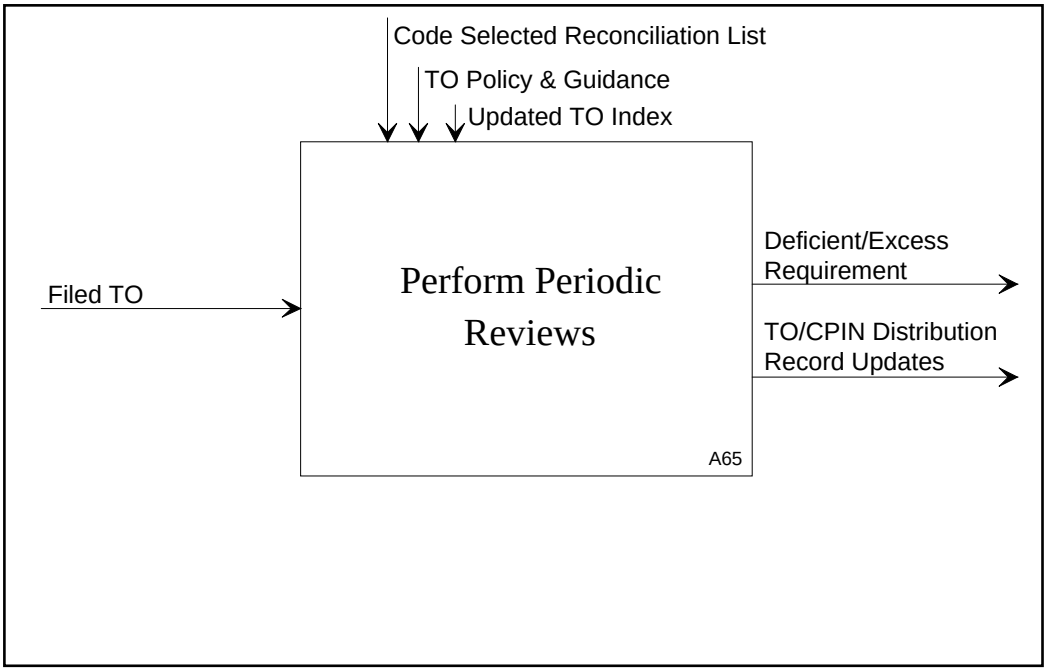

Figure 2-83, Perform Periodic Reviews

A physical inventory of Directorate of Special Weapons TOs is accomplished annually for classified TOs and biannually for unclassified TOs.

2.3.2.6.2 Current Air Force Organizations and Personnel Responsibilities.

The following is a list of key responsibilities for each command:

1. AFLC:

(a) Integrates into the system other government agencies' publications that apply to equipment used by the Air Force.

(b) Continually reviews existing TOs and requirements.

2. Other MAJCOMS and Separate Operating Agencies:

(a) Ensures command organizations establish only those TO files essential to the primary mission of their respective

unit.

(b) Reviews requirements for currency.

2.3.2.6.3 Air Force Equipment.

a. G022 Equipment.

b. Standard office automation systems.

c. Equipment

d. ATOMS Equipment

2.3.2.6.4 Air Force Deficiencies.

a. Manual processes cause extended delays.

b. Lost requisitions result in re-establishing requirement.

c. Labeling and address errors result in misrouting of TOs.

d. Manual processes are costly and labor intensive.

e. The distribution system does not capture and use TODO weapon system support requirements to provide automated screening of distribution requests.

f. The current system results in excessive lost warehouse stock.

g. The current system does not provide an automated capability to handle TO sales to qualified DoD contractors or release of TOs to the public under the Freedom of Information Act (FOIA).

h. The current distribution system can not handle distribution of digitized TOs.

i. The current system does not provide an automated cost accounting for TO reproduction.

j. Changes to TOs are not always distributed in sequence.

k. Current system does not have the capability to track all activities that have ever received a classified TO in order to support notification of classification extensions.

2.4 Tri-Service Integration.

This section introduces the functional model that consolidates Army, Navy and Air Force functional requirements. This model is the transition from current system, methods, and procedures described in FD Section 2.1 through 2.3 into the unified system concepts described in Sections 2.5, 3 and 4. A thorough understanding of the consolidated model is key to understanding the functionality required of the ADS and the relationship of the ADS to Army, Navy, and Air Force functional requirements.

The consolidated model identifies inputs, controls, outputs, and mechanisms (ICOM) used by the services to accomplish technical manual functions. The model relates the ICOMs used in the consolidated system to those used in the existing systems in the following way:

a. First, a figure depicting each key functional process is shown with all applicable ICOMS.

b. Second, each ICOM for the key functional subareas is matched to the ICOM name applicable to each service’s existing systems. Wherever the ICOM names are identical between existing and the proposed consolidated system, they are indicated by "Same".

c. Finally, if an ICOM is required for the proposed consolidated system, but no such ICOM is currently in use, the cross reference will indicate non-applicable, i.e., "N/A". Note that "N/A" only applies to 1COMs for current systems and never to the proposed consolidated system.

The material in this section may be used as a reference tool to identify service specific requirements in the proposed system. Levels of detail differ between current system models whenever the modeling techniques employed by the services to describe their functional requirements dictated. If commonalties do not exist between Army, Navy, and/or Air Force requirements, an appropriate notation is provided. To assist in understanding specific terminology, a Tri-Service definition is provided following each input, output and control title. A glossary with unique service definitions is provided in Appendix 1, Joint Technical Manual System Glossary.

Special note should be made that the Army and Navy currently consolidate all manage, stock and distribute activities for all types of publications (referred to as departmental publications). The Army and Navy have taken the position that this Functional Description must reflect this method of operation. This means

that the automated activities for these functional areas must apply to all publications to include administrative publications, training, and doctrinal publications, as well as technical manuals (TMs). Therefore, all references to TMs within these three functions should be read to mean departmental publications.

The Air Force feels constrained, however, by current program guidance which, in their view, limits the scope of the program to technical orders only.

Figure 2-84, Joint TM System Node Tree, represents a node tree of the entire proposed system model and represents the relationship of the functional elements at each indenture of activity. Figure 2-85A, Joint TM System Top Level Functional Model, and Figure 2-85B, Joint TM System Proposed Functional Model, represent the entire proposed functional model at the first indenture.

2.4.1 Manage TM System (Al).

The functional flow for Manage TM System is shown in Figure 2-86, Tri-Service - Manage TM System.

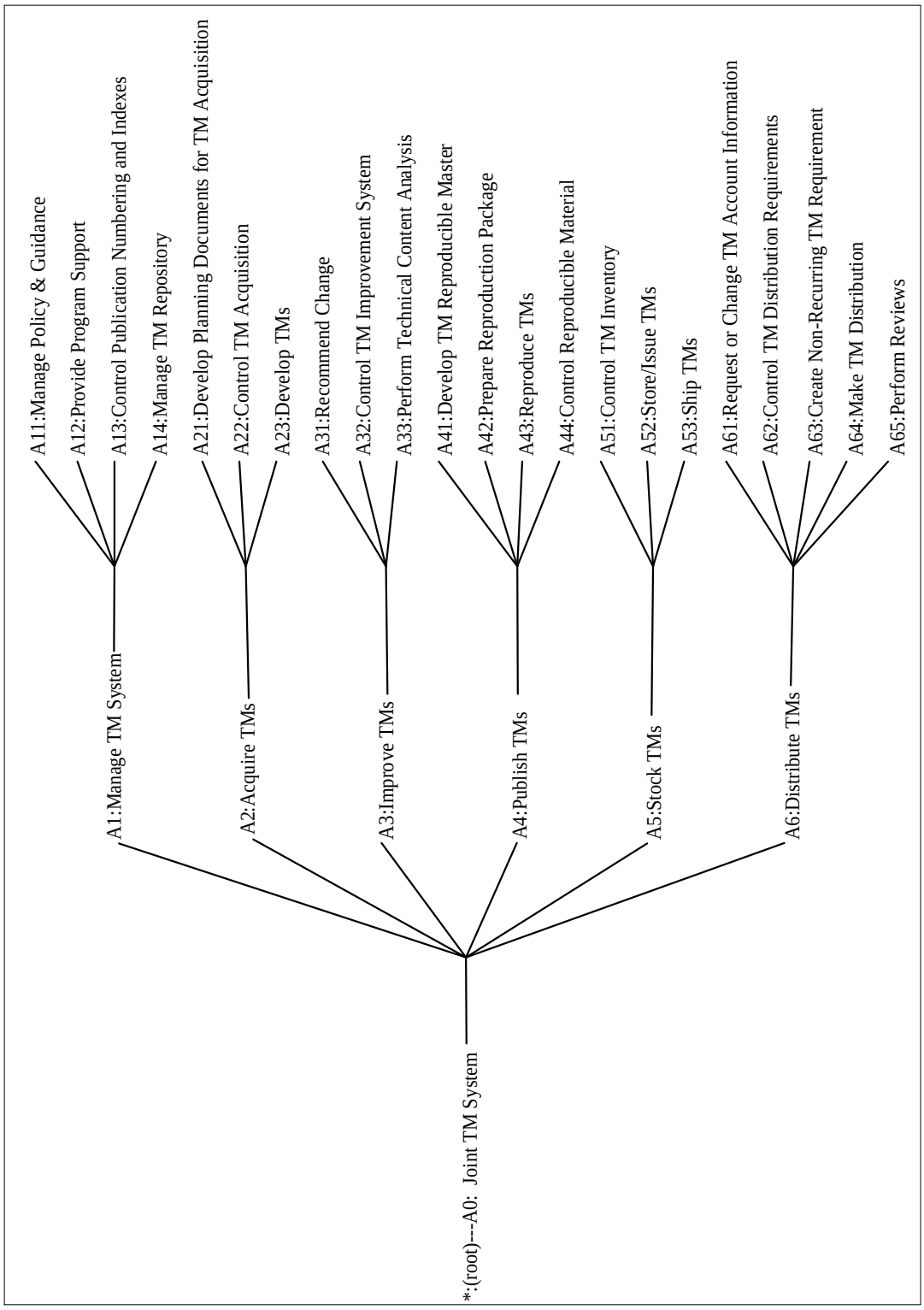

Figure 2-84, Joint TM System Node Tree

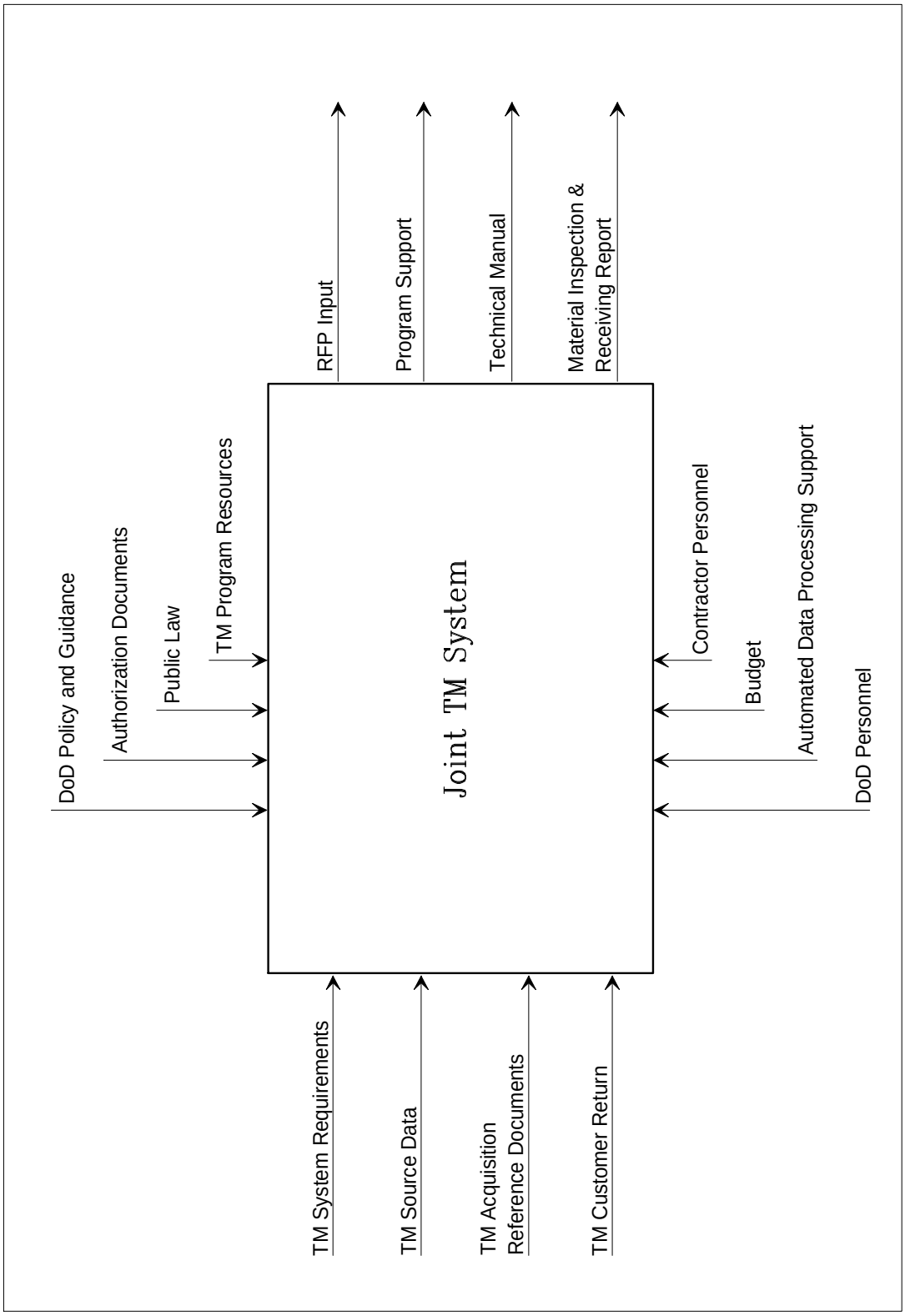

Figure 2-85A, Joint TM System Top Level Functional Model

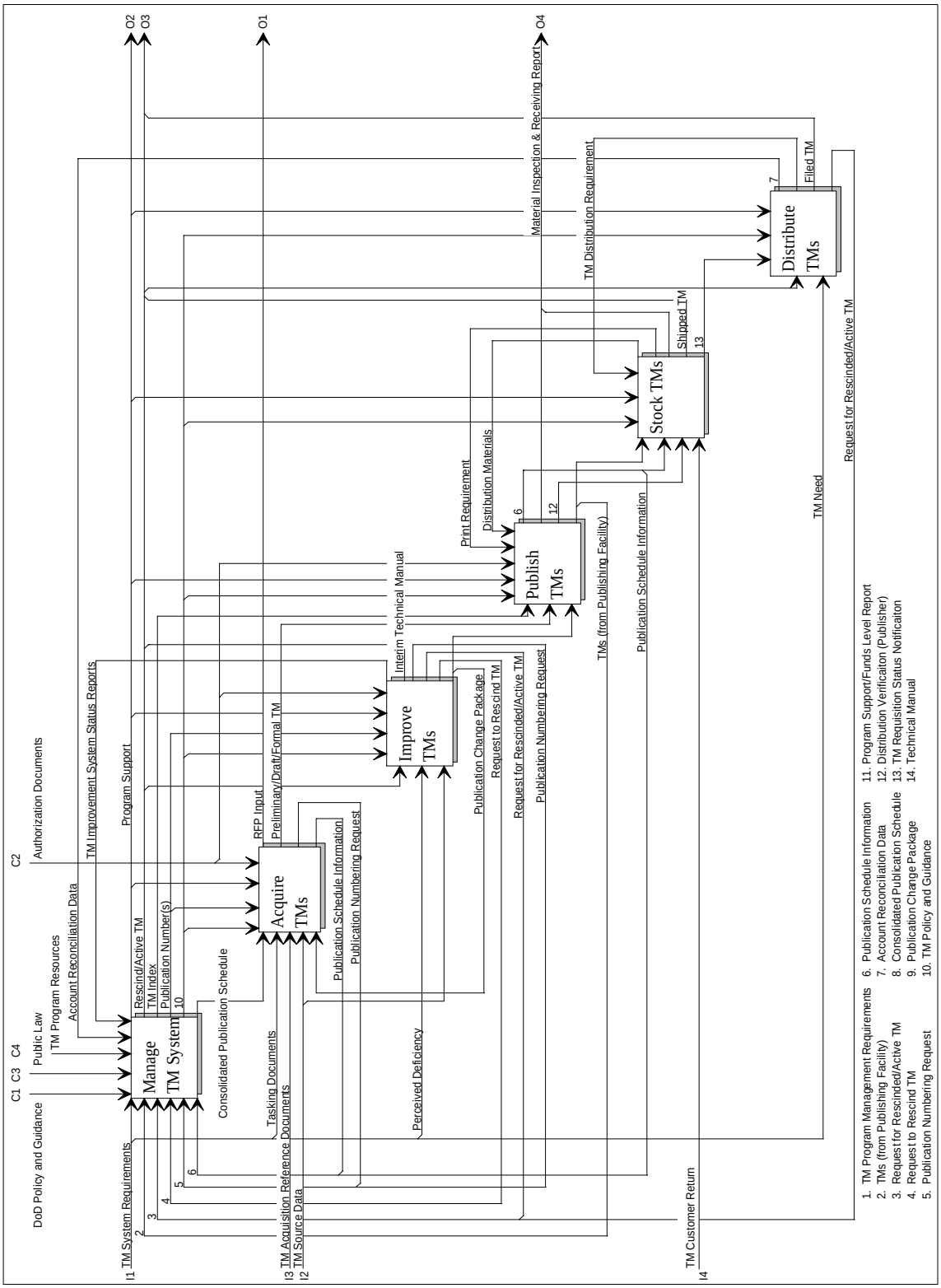

Figure 2-85B, Joint TM System Proposed Functional Model

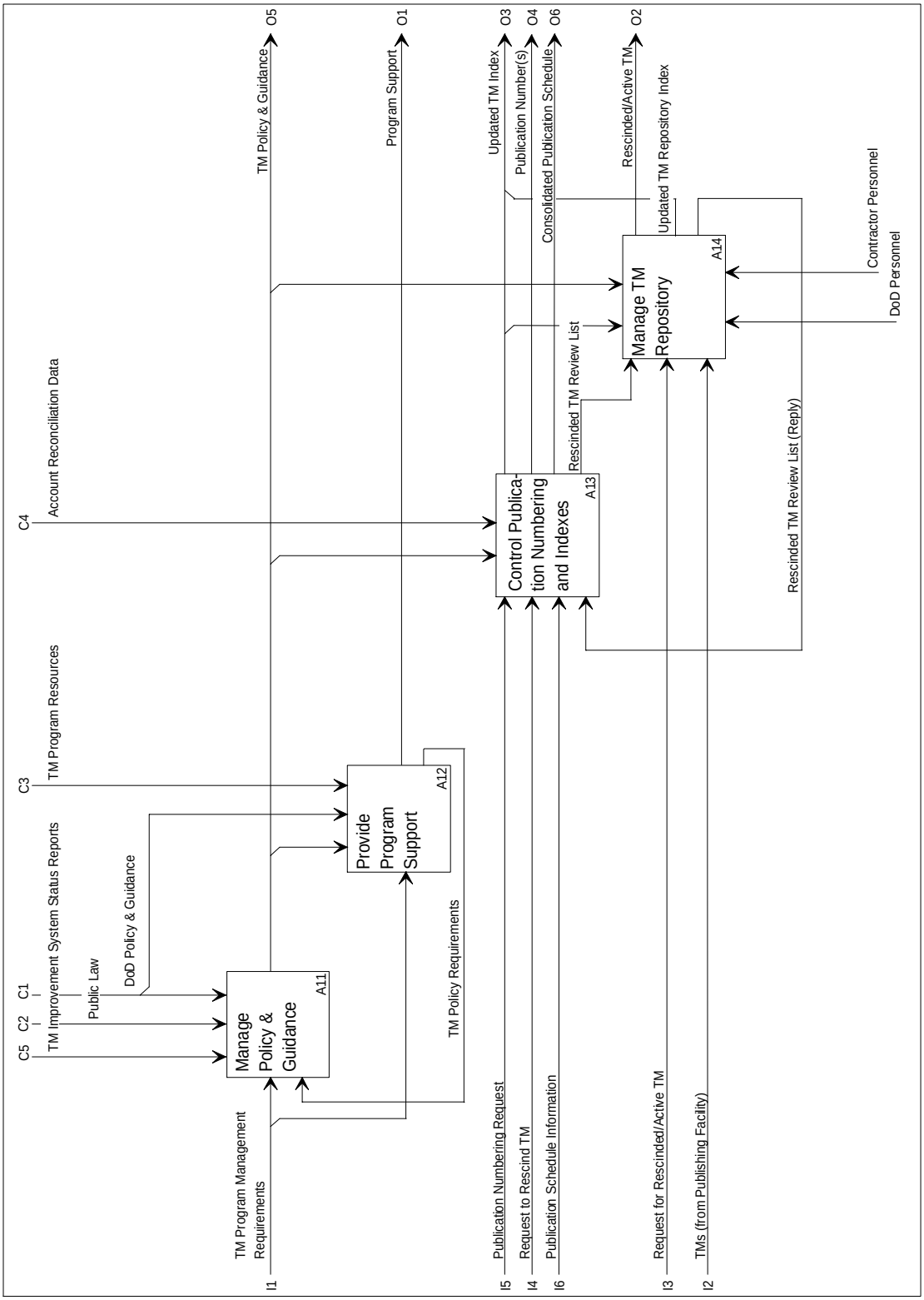

Figure 2-86, Tri-Service - Manage TM System

2.4.1.1 Manage Policy & Guidance (All).

Function Name: Manage Policy and Guidance
Army:Same
Navy: Same
Air Force: Same

Input: TM Program Management Requirements

Requirements for policy and guidance, system support, or changes to them.
Army: Same
Navy: Policy Council Guidance Higher Level Instructions
Air Force: TO System Management Requirements

Input: TM Policy Requirements

Identifies requirements for new or improved TM policy documents for the management of the TM system.
Army: N/A
Navy: Change Request for Instructions

Output: TM Policy and Guidance

TM policy and guidance consists of military regulations, directives, messages, letters, the TMSS and the specific guidance and implementing instructions issued by the responsible command organization.

Army: Same
Navy: Same
Air Force: TO Policy and Guidance

Control: Public Law
Two principle elements of Public Law influencing the TM program are United States Code Title 44 and Freedom of Information Act (FOIA).
Army: Same
Navy: U.S. Code Tide 44
Air Force: N/A

Control: TM Improvement System Status Reports
TM Improvement System Status Reports are status and information summary reports on TM recommended changes. They are provided for file maintenance record keeping and reporting to interested organizations.
Army:Same
Navy: N/A
Air Force: N/A

Control: DoD Policy and Guidance
DoD policy and guidance are derived directly from Public Law and policies and procedures established in the Executive Branch of the Federal Govemment. For TM program management, guidance is contained in DoD Instruction 4151.9 which applies to all service components.
Army:Same
Navy: SECNAVINST 5219.2A
NAVAIRINST 4160.2
BUPERSINST 1430.16
Air Force: Same

2.4.1.2 Provide Program Support (Al2).

Function Name: = Provide Program Support

Program Support requirements are those services required by the TM program. These include manning, budgeting, and ADP support requirements.
Army: Same
Navy: Provide Systems Support
Air Force: Provide System Support

Input: = TM Program Management Requirements
Requirements for policy and guidance, system support, or changes to them.
Army: Same
Navy: Weapon Systems Support
Budget Calls
Funding Authorization
Request for Authorization/Project Number
Air Force: TO System Management Requirements

Output: Program Support
Program Support requirements are those services required by the TM program. These include manning, budgeting, and ADP support requirements.

Army: Same
Navy: Requests for TM Resources
Resource Authorization for TM Support
Air Force: System Support Requirements

Output: TM Policy Requirements

Identifies requirements for new or improved TM policy documents for the management of the TM system.

Army: N/A
Navy: Same
Air Force: N/A

Control: TM Policy and Guidance

TM policy and guidance consists of military regulations, directives, messages, letters, the TMSS and the specific guidance and implementing instructions issued by the responsible command organization.
Army:Same
Navy: S0005-AA-PRO-010
SPAWARINST 4160.2
NAVAIRINST 5600.20
NAVTRASYSCEN P-530
NETPMSAINST 1552.3A
NAVPERS 18068E SECI
CNETINST 3500.3C
CNETINST 1552.3C
CNETINST 1552.4A
NAVSO P-1000 Vol 3, 8
Air Force: TO Policy and Guidance

Control: DoD Policy and Guidance
DOD policy and guidance are derived directly from Public Law, policies and procedures established in the Executive Branch of the Federal Govemment. For TM program management, guidance is contained in DoD Instruction 4151.9 which applies to all service components.
Army: Same
Navy: N/A
Air Force: Same

Control: TM Program Resources
TM Program Resources include personnel, funding and facilities applied to the TM program.
Army: Same
Navy: N/A
Air Force: N/A

2.4.1.3 Control Publication Numbering and Indexes (Al3).

Function Name: Control Publication Numbering and Indexes
Army: Control TM Numbering and Indexes
Navy: Same
Air Force: Control TO Numbering
Input: Request to Rescind TM
Request to rescind a currently active TM because

it is no longer used.
Army: Same
Navy: FPSR-NAVSUP 1088
Air Force: TO Numbering Request

Input: Publication Numbering Request
The Publication Numbering Request is used to request assignment of TM numbers, to submit TM Index source data, to set up an ADP record, and to update, change, rescind, or cancel these records when appropriate.
Army: Same
Navy: TMIN-R-NAVSEA 4160/5
SPAWAR Certification of TM Adequacy
TMIN-R SPAWAR 4160/4
FPSR-NAVSUP 1088
Air Force: TO Numbering Request

Input: Publication Schedule Information
Information on the developing, publishing and release of a TM, used to update or as input to the Consolidated Publication Schedule.
Army: AMC Form 1217-R
Consolidated Schedule - PCN# W53BHRO924R
(Reviewed)
Local Print Request
DA Form 260
Navy: FPSR-NAVSUP 1088
Air Force: N/A

Input: Rescinded TM Review List (Reply)
The Rescinded TM Review list with annotated comments.
Army: Same
Navy: N/A
Air Force: Rescinded TO Review List (Reply)

Output: Updated TM Index
TM Indexes that have been updated with the latest TM information.
Army: Same
Navy: TM Indexes
Catalog Change Notice
Air Force: Updated TO Index

Output: Publication Number(s)
Unique numbers to categorize data of technical systems and equipment which provide sequence for filing, and furnished as a means for users to identify and establish

requirements for distribution.
Army: Same
Navy: Same
Stock Number (SN)
Air Force: TO Number

Output: Consolidated Publication Schedule
Consolidated Publication Schedule contains summary information on the developing, publishing, and release of all TMs.
Army: AMC Form 1217-R (Approved)
Consolidated Schedule - PCN# W53BHRO924R (for Review)
Navy: N/A
Air Force: N/A

Output: Rescinded TM Review List
List generated which identifies TMs which have been rescinded or are candidates for rescission.
Army: Same
Navy: N/A
Air Force: Rescinded TO Review List

Control: TM Policy and Guidance
TM policy and guidance consists of military regulations, directives, messages, letters, the TMSS and the specific guidance and implementing instructions issued by the responsible command organization.
Army: Same
Navy: SPAWARINST 4160.2
S0005-AA-PRO-OIO/TMMP
NAVAIR 00-25-100 (WPO10 00)
NAVAIRINST 5600.20
NAVSEA NOOO-00-IDK-000/TMINS
SPAWAR EEOOO-NA-GYD-OIO/TMINS
CNETINST 5600.3
NAVSUPINST 5600.19
NPFCINST 4400.IC (SN)
Air Force: TO Policy and Guidance

Control: Account Reconciliation Data<Ml> (Note: This control is a new requirement for <Ml>the system not currently reflected in the DoD Services System <MI> model snapshots)
Account Reconciliation Data is developed during periodic reviews of TMs on hand with authorized levels and the TM reconciliation data provided by the TM managers and account custodians.

Army: N/A
Navy: N/A
Air Force: N/A

2.4.1.4 Manage TM Repository (A14).

Function Name: Manage TM Repository
Army: Manage Publication Reference
Navy: Manage TM Repositories
Air Force: Manage Central TO Repository

Input: Rescinded TM Review List
List generated which identifies TMs which have been rescinded or are candidates for rescission.
Army: Same
Navy: N/A
Air Force: Rescinded TO Review List
Input: Request for Rescinded/Active TM
A documented need for a rescinded or active TM which is sent to the organization responsible for the TM.
Army: Request for Rescinded TM
Navy: Request for Rescinded/Canceled/Superseded TMs
Air Force: Request for Rescinded TO

Input: TMs (from Publishing Facility)
Copies of bulk TMs, print on demand TMs and/or digital TMs that have come from a reproduction facility (contractor or organic) to be stocked and/or distributed.
Army: Same
Navy: TMs Basics, Changes, Revisions
Air Force: TOs (from Publishing Facility)

Output: Updated TM Repository Index
An index containing the latest list of the TMs stored in the repositories.
Army: N/A
Navy: Index of Repository Contents
Air Force: N/A

Output: Rescinded/Active TM
A technical manual pulled from a repository to support a request.
Army: Rescinded TM
Navy: Copy of TM (Repository)
Air Force: Rescinded TO

Output: Rescinded TM Review List (Reply)
The Rescinded TM Review list with annotated

comments.
Army: Same
Request to Rescind TM
Navy: N/A
Air Force: Rescinded TO List (Reply)

Control: Updated TM Index
TM Indexes that have been updated with the latest TM information.
Army: Same
Navy: N/A
Air Force: Updated TO Index

Control: TM Policy and Guidance
TM policy and guidance consists of military regulations, directives, messages, letters, the TMSS and the specific guidance and implementing instructions issued by the responsible command organization.
Army: Same
Navy: S0005-AA-PRO-010
SPAWARINST 4160.2
NAVAIRINST 5600.20
Air Force: TO Policy and Guidance

2.4.2 Acquire TMs (A2).

The functional flow for Acquire TMs is shown in Figure 2-87, Tri-Service Acquire TMs.

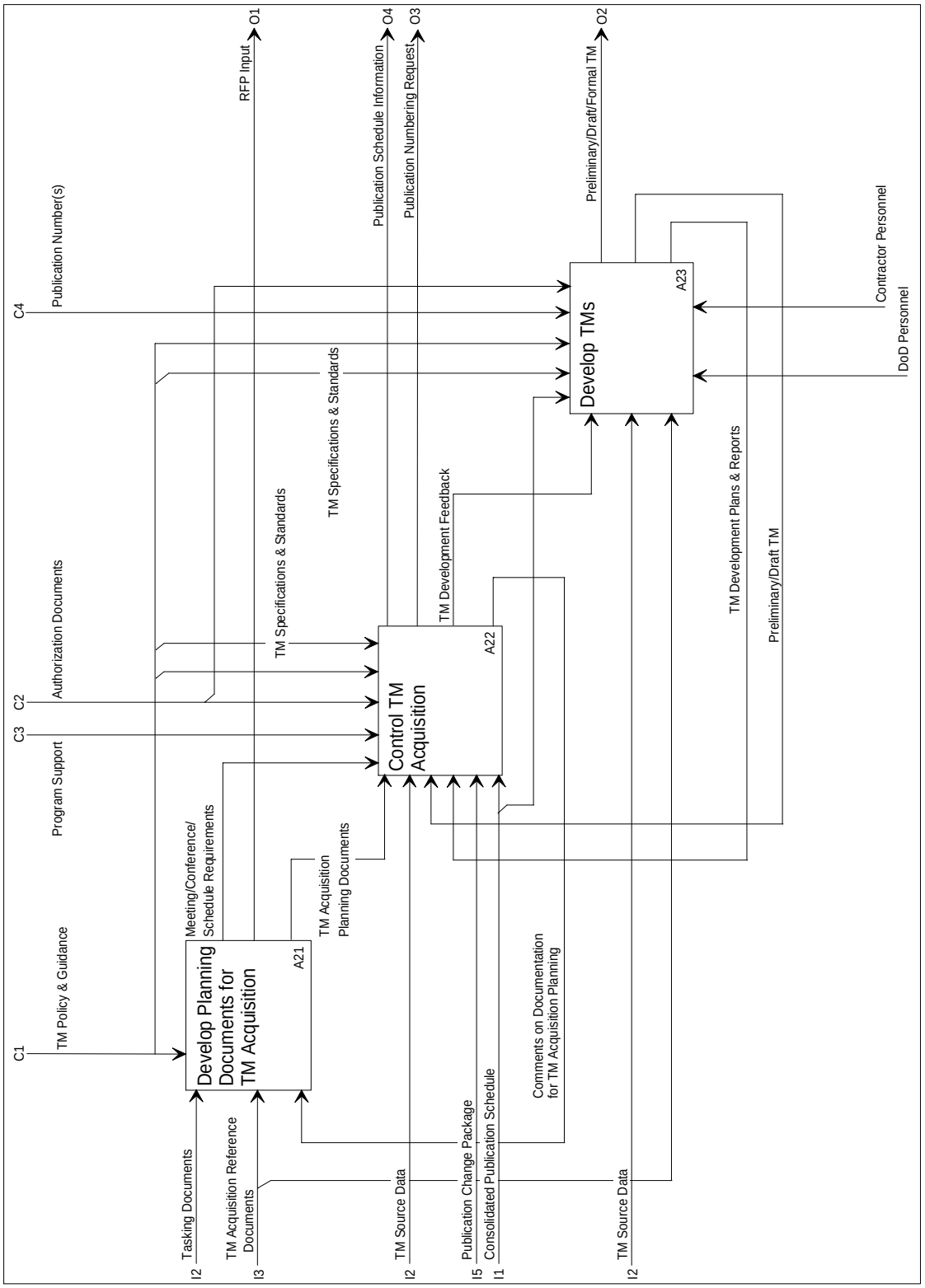

Figure 2-87, Tri-Service - Acquire TMs